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FINAL BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING
REPORT STUDY AREA 1 NTC ORLANDO FL
7/1/1996
ABB ENVIRONMENTAL

**BASE REALIGNMENT AND CLOSURE
ENVIRONMENTAL SITE-SCREENING REPORT**

00033

STUDY AREA 1

**NAVAL TRAINING CENTER
ORLANDO, FLORIDA**

Unit Identification Code: N65928

Contract No. N62467-89-D-0317/107

Prepared by:

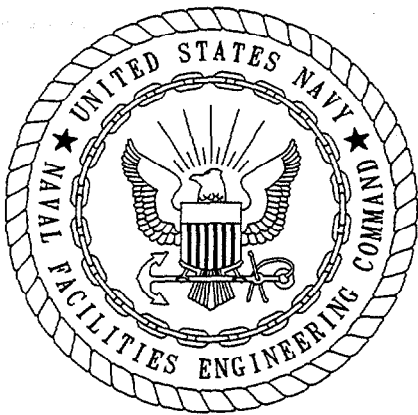
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Prepared for:

**Department of the Navy, Southern Division
Naval Facilities Engineering Command
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July 1996



CERTIFICATION OF TECHNICAL
DATA CONFORMITY (MAY 1987)

The Contractor, ABB Environmental Services, Inc., hereby certifies that, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. N62467-89-D-0317/107 are complete and accurate and comply with all requirements of this contract.

DATE: July 17, 1996

NAME AND TITLE OF CERTIFYING OFFICIAL: John Kaiser
Task Order Manager

NAME AND TITLE OF CERTIFYING OFFICIAL: Mark Salvetti
Project Technical Lead

(DFAR 252.227-7036)

TABLE OF CONTENTS

BRAC Environmental Site-Screening Report
Study Area 1
Naval Training Center
Orlando, Florida

Chapter	Title	Page No.
1.0	STUDY AREA 1, BUILDING 3126 AND ALLEGED NAVAL HOSPITAL LANDFILL (UNNUMBERED FACILITY [UNF]-12)	1-1
1.1	STUDY AREA 1, BACKGROUND AND CONDITIONS	1-1
1.1.1	Building 3126	1-1
1.1.2	UNF-12	1-1
1.2	STUDY AREA 1, INVESTIGATION SUMMARY	1-1
1.2.1	Building 3126, Investigation Summary	1-5
1.2.1.1	Soil Sampling	1-5
1.2.1.2	Groundwater Monitoring Well Installation and Sampling	1-5
1.2.2	UNF-12, Investigation Summary	1-5
1.2.2.1	Geophysical Surveys	1-5
1.2.2.2	Passive Soil Gas Survey	1-6
1.2.2.3	Soil Boring Investigation	1-6
1.2.2.4	Groundwater Monitoring Well Installation and Sampling	1-6
1.3	STUDY AREA 1, RESULTS	1-7
1.3.1	Building 3126, Results	1-7
1.3.1.1	Surface Soil	1-7
1.3.1.2	Groundwater	1-7
1.3.2	UNF-12, Results	1-7
1.3.2.1	Soil	1-7
1.3.2.2	Groundwater	1-7
1.4	STUDY AREA 1, CONCLUSIONS AND RECOMMENDATIONS	1-8

REFERENCES

APPENDICES

- Appendix A: Boring Logs and Monitoring Well Installation Diagrams
- Appendix B: Geophysical Surveys
- Appendix C: Soil Gas Survey Findings
- Appendix D: Summary of Detections in Soil and Groundwater Analytical Results
- Appendix E: Summary of Analytical Results

LIST OF FIGURES

BRAC Environmental Site-Screening Report
Study Area 1
Naval Training Center
Orlando, Florida

<u>Figure</u>	<u>Title</u>	<u>Page No.</u>
1	Location of Study Area 1	1-2
2	Soil Sample Locations at Building 3126, Civilian BEQ, Study Area 1 .	1-3
3	Monitoring Well Locations, Passive Soil Gas Survey and Geophysical Survey Areas at UNF-12, Alleged Hospital Landfill, Study Area 1 . .	1-4

GLOSSARY

ABB-ES	ABB Environmental Services, Inc.
BEQ	Bachelor Enlisted Quarters
bls	below land surface
CLP	Contract Laboratory program
DQO	data quality objective
FDEP	Florida Department of Environmental Protection
FID	flame ionization detector
FOSL	Finding of Suitability to Lease
FOST	Finding of Suitability to Transfer
HSA	hollow-stem auger
$\mu\text{g}/\ell$	micrograms per liter
OPT	Orlando Partnering Team
RBC	risk-based concentration
SCG	soil cleanup goal
TAL	target analyte list
TCL	target compound list
USEPA	U.S. Environmental Protection Agency
UST	underground storage tank
UNF	unnumbered facility

1.0 STUDY AREA 1, BUILDING 3126 AND ALLEGED
NAVAL HOSPITAL LANDFILL (UNNUMBERED FACILITY [UNF]-12)

This report contains information gathered as a result of site-screening activities conducted at Study Area 1. In the fall of 1995, after the review of site-screening results, the Orlando Partnering Team (OPT) determined that no further action was required at Study Area 1 and that the parcel was transferrable under the provisions of a Finding of Suitability to Lease (FOSL) or Finding of Suitability to Transfer (FOST).

1.1 STUDY AREA 1, BACKGROUND AND CONDITIONS. This section includes a brief background summary for Study Area 1. Further details can be found in the Site-Screening Plan (ABB Environmental Services [ABB-ES], 1995).

1.1.1 Building 3126 Building 3126 is a civilian Bachelor Enlisted Quarters (BEQ) and is a one-story building constructed of cinder blocks with a gabled roof covered by felt shingles. It is located on Comfort Avenue near the corner of Raymond Street (Figures 1 and 2).

A greenish stain was observed on the ground on the north side of the mechanical room. The stain covered a 10-foot by 4-foot area to a depth of 2 inches. There was no living vegetation within the area of the stain (ABB-ES, 1994).

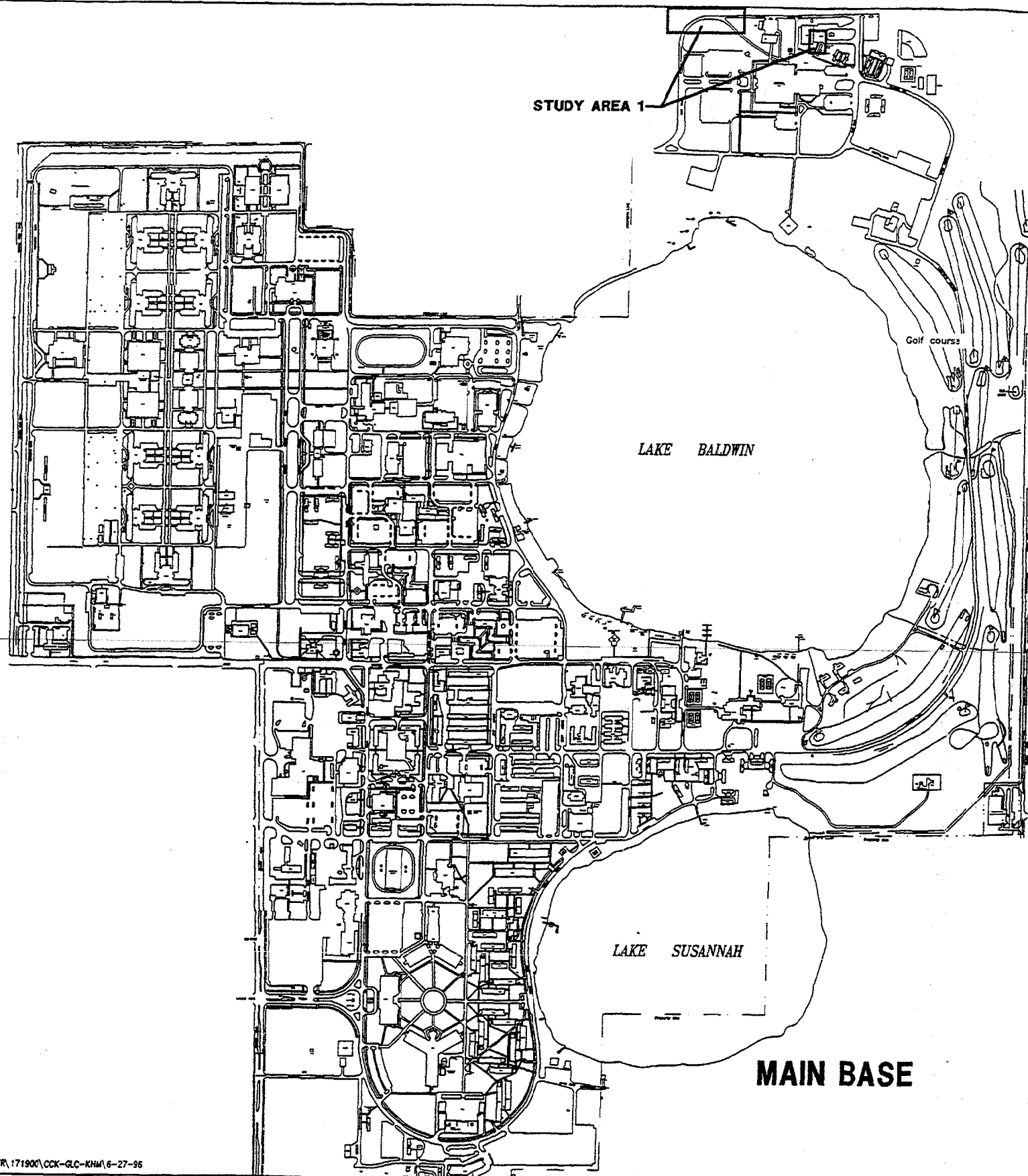
1.1.2 UNF-12 Area UNF-12 is an alleged former Hospital Landfill, located on the northeast part of the Main Base. This landfill is northwest of the Navy Hospital and is bisected by Mercy Avenue (Figures 1 and 3). The area currently is an open grassy lawn with scattered trees.

From the 1950s to late 1970s, Air Force medical buildings occupied the north shore area of Lake Baldwin. According to local residents, the Air Force buildings were dismantled in the late 1970s. Building parts and construction debris were reportedly disposed of in deep trenches in UNF-12.

The duration of disposal operations was not disclosed. Only building materials such as roofing, wood siding, flooring, and support beams were reportedly landfilled. Prior to the landfill, the area was undeveloped land. In the early 1980s, the Navy Hospital and associated medical buildings were constructed in the vicinity. These buildings currently exist to the east of UNF-12.

No documented landfilling operations were identified in Naval Training Center, Orlando records and no known sampling or investigation has occurred to date regarding this disposal activity. Due to the age of the buildings that were allegedly dismantled and placed into the landfill, it is likely that lead-based paint is present in the landfill. Asbestos-containing material from demolished buildings may also have been disposed of at this location.

1.2 STUDY AREA 1, INVESTIGATION SUMMARY. The site-screening investigations conducted at Study Area 1 are described below.



0 500 1000
SCALE: 1 INCH = 1000 FEET

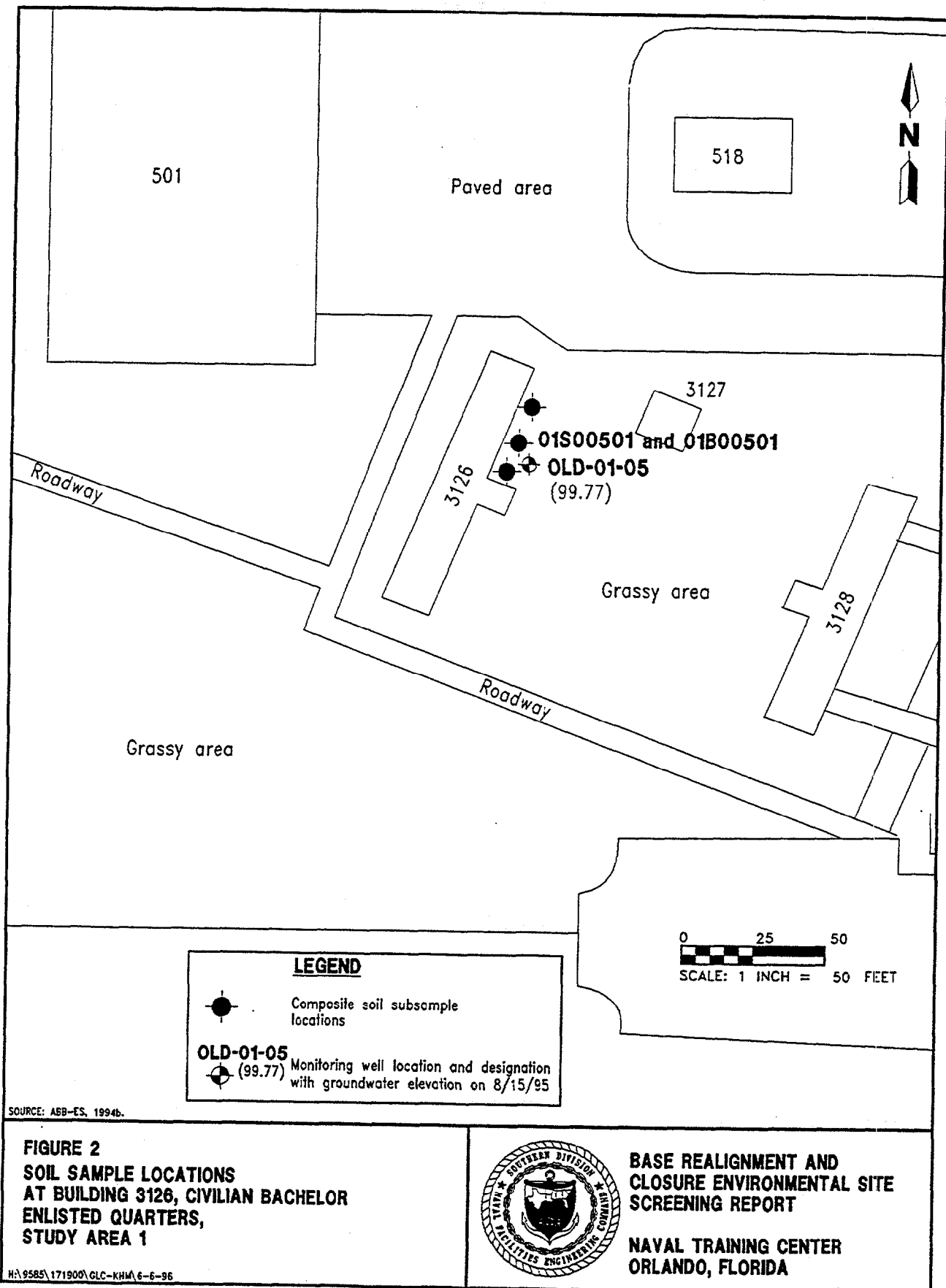
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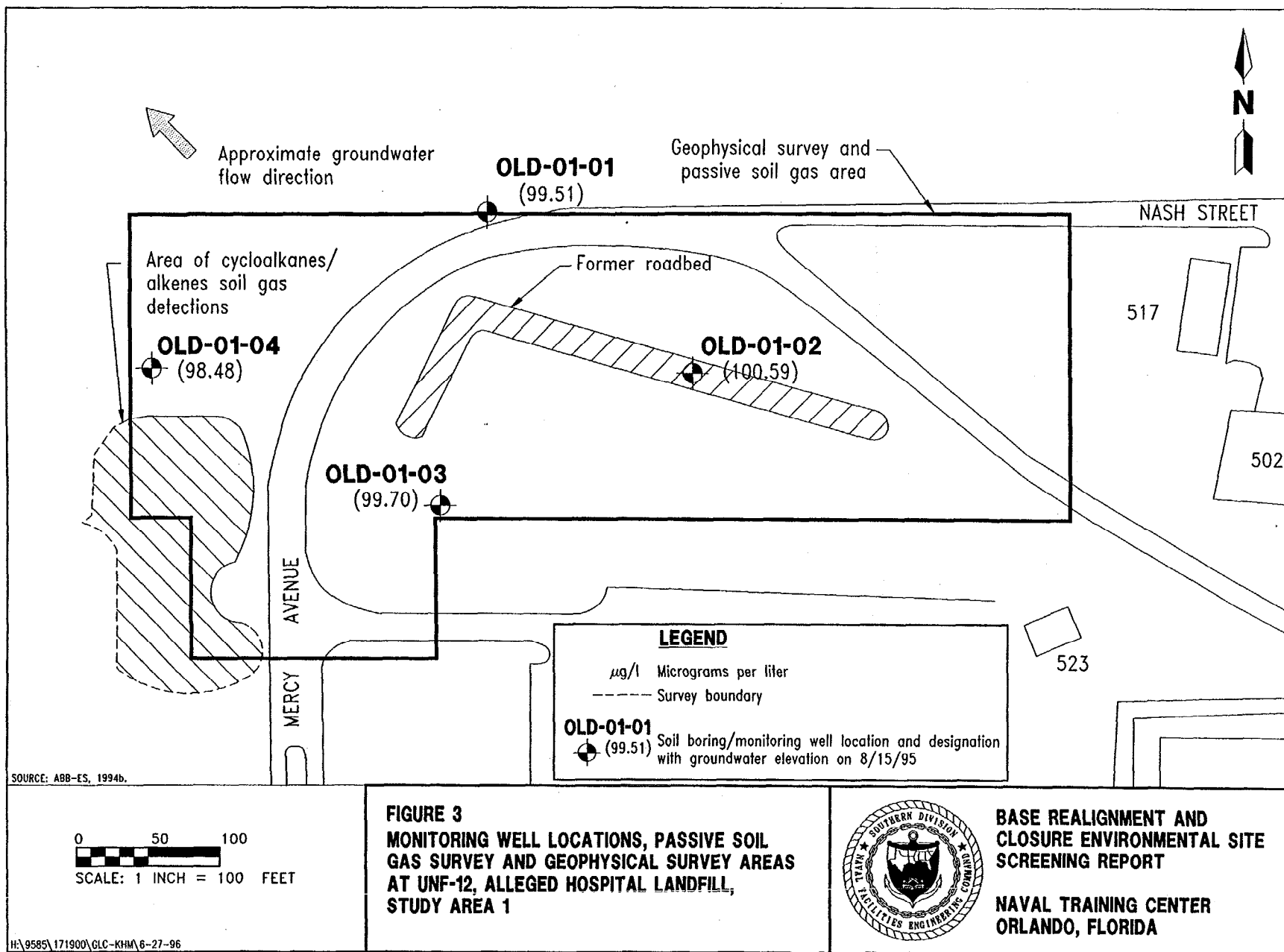
FIGURE 1
LOCATION OF STUDY AREA 1



**BASE REALIGNMENT AND
CLOSURE ENVIRONMENTAL SITE
SCREENING REPORT**

**NAVAL TRAINING CENTER
ORLANDO, FLORIDA**





1.2.1 Building 3126, Investigation Summary Reconnaissance of the area during site-screening field activities confirmed the presence of a hard, green stained soil crust in this area.

1.2.1.1 Soil Sampling Surface soil samples (0 to 1 foot below land surface [bls]) representative of the surficial crust were collected at three locations within the affected area (Figure 2) and composited onsite. A second soil sample was collected at a depth interval of 1 to 2 feet bls from hand-augered borings at the same locations as the surface samples and also composited onsite. Grab samples for volatile organic analyses were collected prior to compositing. Soil samples labeled as 01S00501 and 01B00501 were submitted for full Contract Laboratory program (CLP) target compound list (TCL) organics (volatiles, semivolatiles, and pesticides/polychlorinated biphenyls) and target analyte list (TAL) metals analyses, in accordance with U.S. Environmental Protection Agency (USEPA) Level IV data quality objectives (DQOs).

1.2.1.2 Groundwater Monitoring Well Installation and Sampling After a preview of preliminary laboratory data for soil, the Base Realignment and Closure cleanup team (later renamed the Orlando Partnering Team) determined that a groundwater sample was required from the vicinity of the stain. In May 1995, one soil boring was advanced to approximately 16 feet bls using a hollow-stem auger (HSA) drilling technique. Soil samples were collected continuously and field screened with a flame ionization detector (FID). No responses above background were observed. The boring log is presented in Appendix A.

The boring was completed as a monitoring well, with the screened interval intercepting the water table. One groundwater sample was collected and submitted for full suite CLP TCL and TAL analyses, in accordance with USEPA Level IV DQOs.

1.2.2 UNF-12, Investigation Summary Aerial photographs and topographic maps of the area were reviewed prior to Group I Site-Screening field activities. A northwesterly groundwater flow direction was inferred from local surface water elevations and topographic features. Areas of disturbed soil were identified in aerial photographs, but appeared to be related to realignment of local roads and not indicative of landfilling operations. No specific target area was identified based upon a review of preliminary data; therefore, the area proposed for exploratory activities was expanded to encompass the entire undeveloped area between the northwest corner of the property and the hospital facilities to the east (Building 517). Site-screening activities associated with UNF-12 did not include evaluation of buildings, underground storage tanks (USTs) or other man-made features.

1.2.2.1 Geophysical Surveys Geophysical survey results are presented in Appendix B. No evidence of stained soil, distressed vegetation, or surface exposure of buried refuse or debris was observed during the walkover reconnaissance of the area. Geophysical surveying was conducted in an area 650 feet by 200 feet, near the northwest corner of the property (Figure 3). A 200-foot by 100-foot extension to the survey area was added due to visible subsidence near the southwest corner of the main grid. No other visual indications of potential landfilled areas were observed during the walkover reconnaissance. Geophysical surveys at UNF-12 included a magnetometer and terrain conductivity survey (with a 10- by 10-foot measurement grid), followed by a ground-penetrating radar survey.

Evaluation of terrain conductivity and magnetic anomalies in the surveyed area of UNF-12 indicated the majority of anomalies were attributed to surface features, underground utilities, and remnants of a former road. A subtle anomaly near the south-central portion of the surveyed area is likely to be related to a former structure or foundation. No suspected landfilled areas or other specific target areas were identified using geophysical methods.

1.2.2.2 Passive Soil Gas Survey A passive soil gas survey was conducted at UNF-12, following evaluation of geophysical data. Forty-seven soil gas collectors were installed on 50-foot centers within the area of interest. The soil gas collectors are capable of detecting volatile and some semivolatile organic compounds. These compounds may be in the stratigraphic column and/or in the groundwater below the collection point.

Soil gas data are always semiquantitative, as multiple sources in soil and/or groundwater cannot be differentiated. Further, compound concentrations in each collector are compared on a relative basis, depending on whether or not the data are interpreted to be of high, moderate to high, moderate, etc., intensity. These qualitative soil gas values do not represent actual concentrations of the reported compounds. Efforts to relate soil gas response directly to groundwater or soil contaminant concentrations is generally not regarded as productive owing to the assumptions that are required for heterogeneity and source distribution.

Elevated relative response values for benzene, toluene, ethylbenzene, and xylene compounds and tetrachloroethene at UNF-12 were detected at isolated locations throughout the site and may represent detectable concentration levels in the subsurface. However, the discrete nature of these detections does not represent spatially continuous responses normally associated with a contaminant plume in the subsurface. Elevated response values for cycloalkanes/alkenes were detected in one area west of Mercy Avenue (Figure 3). Based on the number of samples exhibiting elevated responses, this area has the potential for detectable contaminant concentrations in the subsurface. Passive soil gas results are presented in Appendix C.

1.2.2.3 Soil Boring Investigation Four soil borings were advanced to a depth of approximately 13 feet bls at UNF-12 using an HSA drilling technique. Boring locations were selected based on aerial photographs and geophysical survey results. Soil samples were collected continuously and field-screened with an FID. No responses above background were observed. One soil sample was collected from each boring from the deepest sample interval above the water table. Four soil samples (one from each boring) were submitted for full suite CLP TCL and TAL analyses, in accordance with USEPA Level IV DQOs.

1.2.2.4 Groundwater Monitoring Well Installation and Sampling Each boring was completed as a monitoring well. Monitoring wells OLD-01-01, OLD-01-03, and OLD-01-04 were completed prior to establishing the location for monitoring well OLD-01-02 (Figure 3). Boring logs and monitoring well installation diagrams for the four wells are presented in Appendix A.

Relative groundwater elevations were measured, confirming the local northwesterly hydraulic gradient. Monitoring well OLD-01-02 was subsequently installed downgradient from an unidentified magnetic anomaly in the south-central area of UNF-12. Two-inch-diameter polyvinyl chloride monitoring wells with 10-foot screened sections were installed in each of the borings. The screened interval

of each well intercepted the water table. One groundwater sample was collected from each of the four monitoring wells at UNF-12 and submitted for full suite CLP TCL and TAL analyses, in accordance with USEPA Level IV DQOs.

1.3 STUDY AREA 1. RESULTS. The results of site-screening investigations at Study Area 1 are discussed below.

1.3.1 Building 3126, Results A summary of positive analytical detections in soil and groundwater are presented in Appendix D. A complete set of analytical results is presented in Appendix E.

1.3.1.1 Surface Soil Barium, chromium, cobalt, copper, lead, manganese, mercury, potassium, sodium, and zinc were detected at concentrations that exceeded the background screening value for surface soil, but all were less than the corresponding soil cleanup goals (SCGs) or residential risk-based concentrations (RBCs).

Detectable concentrations of bis(2-ethylhexyl)phthalate (160J micrograms per kilogram, di-n-butylphthalate, and the pesticides 4,4'-dichlorodiphenyl-dichloroethene, 4,4'-dichlorodiphenyltrichloroethane, alpha-Chlordane, gamma-Chlordane, and dieldrin were detected in both surface soil samples. The concentrations of all detected organics were below the corresponding SCG. Leachability-based SCG values do not apply, as no organic compounds were present in groundwater above Florida Department of Environmental Protection (FDEP) groundwater guidance concentrations (see below).

1.3.1.2 Groundwater No organic compounds were detected in the single groundwater sample collected at Building 3126. The concentrations of all inorganic analytes detected were below FDEP guidance concentrations and tap water RBCs.

1.3.2 UNF-12, Results A summary of positive analytical detections in soil and groundwater is presented in Appendix D. A complete set of analytical results is presented in Appendix E.

1.3.2.1 Soil Calcium, mercury, nickel, and silver were detected above the background screening value in subsurface soils at UNF-12. However, all concentrations were less than the corresponding residential RBC.

Acetone, di-n-butylphthalate, and dieldrin were also detected in subsurface soils. Leachability-based SCG values do not apply, as no organic compounds were present in groundwater above FDEP groundwater guidance concentrations (see below). All organic concentrations detected in subsurface soil are less than the corresponding residential RBCs.

1.3.2.2 Groundwater Lead was detected in groundwater at monitoring well OLD-01-02 at 17.1 micrograms per liter ($\mu\text{g}/\ell$), above the background screening value and the FDEP groundwater maximum contaminant level of 15 $\mu\text{g}/\ell$. No other constituents were detected in groundwater above both background screening values and FDEP groundwater guidance.

The passive soil gas cycloalkane and cycloalkene detections west of Mercy Avenue may be related to vegetation. No organic compounds were detected in groundwater from well OLD-01-04, located downgradient of the soil gas responses.

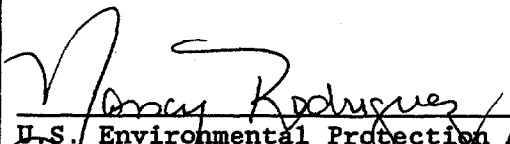
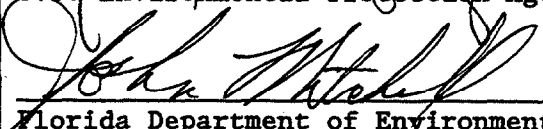

On June 7, 1995, groundwater from monitoring well OLD-01-02 was resampled and analyzed for TAL inorganics. The concentrations of all analytes detected were below FDEP guidance concentrations and tap water RBCs.

1.4 STUDY AREA 1, CONCLUSIONS AND RECOMMENDATIONS. Lead in monitoring well OLD-01-02 was the only constituent detected at Study Area 1 above screening concentrations. However, the concentrations of all analytes were below screening concentrations after a subsequent resampling of groundwater from OLD-01-02. The original lead concentration detected in OLD-01-02 is not believed to represent typical site conditions and may have been due to suspended solids present in the groundwater sample.

Based upon the analytical results of surface soil samples and groundwater from the area most likely to be affected, the stained soil east of Building 3126 does not appear to represent an environmental concern. Therefore, ABB-ES recommends the classification for Building 3126 be changed from 7/Gray to 1/White and further recommends an FOST, without a requirement for additional evaluation.

Based on available information and site-screening data, it is concluded that landfilling operations did not occur in the area of UNF-12. ABB-ES recommends an FOST, with no further requirement for evaluation, and a reclassification of the site from 7/Gray to 1/White.

The undersigned members of the OPT concur with the findings of the preceding investigation.

<u>STUDY AREA 1</u>	
 _____ U.S. Environmental Protection Agency, Region IV	<u>24 July 1996</u> _____ Date
 _____ Florida Department of Environmental Protection	<u>7/24/96</u> _____ Date
 _____ U.S. Department of the Navy	<u>24 July 1996</u> _____ Date

REFERENCES

ABB Environmental Services, Inc. (ABB-ES), 1994, Final Draft Environmental Baseline Survey (EBS) Report, NTC, Orlando, Florida: prepared for Southern Division, Naval Facilities Engineering Command (SOUTHNAVFACENGCOM), Charleston, South Carolina.

ABB-ES, 1995, Site-Screening Plan, Groups I through V Study Areas and Miscellaneous Additional Sites, NTC, Orlando, Florida: prepared for SOUTHNAVFACENGCOM, Charleston, South Carolina.

APPENDIX A

BORING LOGS AND MONITORING WELL INSTALLATION DIAGRAMS

Project: BRAC NTC, Group I, Site Screening		Well ID: OLD-01-01		Boring ID: 01B001	
Client: SOUTHNAVFACENGCOM		Contractor: Groundwater Protection, Inc.		Job No.: CTO-107	
Northing: 1544346.7667		Easting: 552285.2283		Date started: 08/29/94	
Method: 4.25" Hollow stem auger		Casing dia.: 2 in.		Screened Int.: 3-13 ft. bls	
TOC elev.: 108.51 Ft.		Type of OVM: Porta FID		Total dpth: 13.5Ft.	
ABB Rep.: S. Grietens		Well development date: 09/12/94		Dpth to ∇ 8 * Ft.	
				Site: Study Area 01	

Depth Ft.	Laboratory Sample ID.	Sample Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.	Well diag.
				QUARTZ SAND: White/gray, fine grained, well sorted, well/moderate rounding, clean with trace fines.		SP	posthole	
				QUARTZ SAND: Tan, fine/medium grained, same as 0-2 feet.				
5		90%	0	QUARTZ SAND: Gray/white, good rounding, same as 0-2 feet.			1,2,2,2	
	01B00101	80%	0				2,2,2,2	
		75%	0	QUARTZ SAND: Gray/brown, wet, same as 0-2 feet.			2,4,3,8	
10		90%	0				1,3,4,5	
		90%	0	QUARTZ SAND: Grey/brown/black, same as 0-2 feet.			2,2,2,4	
		90%						
15				* = approximate depth				

Project: BRAC NTC, Orlando, Group I, Site Screening		Well ID: OLD-01-02		Boring ID: 01B002	
Client: SOUTHNAVFACENGCOM		Contractor: Groundwater Protection, Inc.		Job No.: CTO-107	
Northing: 1544232.4703		Easting: 552408.5495		Date started: 08/30/94	
Method: 4.25" Hollow stem auger		Casing dia.: 2 in.		Screened Int.: 3-13 ft. bls	
TOC elev.: 108.58 Ft.		Type of OVM: Porta FID		Protection level: 0	
ABB Rep.: S. Grietens/T. Cramer		Well development date: 09/13/94		Dpth to ▽ 8 * Ft.	
				Site: Study Area 01	

Depth Ft.	Laboratory Sample ID.	Sample Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.	Well diag.
				QUARTZ SAND: Tan/brown, fine grained, good sorted, well/moderate rounding.		SP	posthole	
0			0				1,2,2,3	
5		50%						
	01B00201		0				2,2,3,5	
		95%						
			0	QUARTZ SAND: Gray/dark gray, same as .5 feet.			2,2,4,6	
		40%						
10			0	QUARTZ SAND: Dark brown, with fine silty sands.			10,11,11,10	
		100%						
			0				11,8,6,7	
		100%						
15								

Project: BRAC NTC, Orlando, Group I, Site Screening		Well ID: OLD-01-03		Boring ID: 01B003	
Client: SOUTHNAVFACENGCOM		Contractor: Groundwater Protection, Inc.		Job No.: CTO-107	
Northing: 1544142.4443		Easting: 552231.7128		Date started: 08/30/94	
Method: 4.25" Hollow stem auger		Casing dia.: 2 in.		Screened Int.: 3-13 ft. bls	
TOC elev.: 105.84 Ft.		Type of OVM.: Porta FID		Protection level: D	
ABB Rep.: S. Grietens/T. Cramer		Well development date: 09/12/94		Dpth to 7 * Ft.	
				Site: Study Area 01	

Depth Ft.	Laboratory Sample ID.	Sample Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.	Well diag.
				QUARTZ SAND: Light tan, medium grained, good sorting, well/moderate rounding.		SP	posthole	
0			0				1,2,2,5	
5	01B00301	100%	0				2,2,3,5	
		100%	0				2,2,4,8	
		50%	0	QUARTZ SAND: Dark brown, medium to fine grained with trace silts.			10,11,11,10	
10		100%	0				11,8,6,7	
		100%	0					
15								

Project: BRAC NTC, Group I, Site Screening		Well ID: OLD-01-05	Boring ID: 01B008
Client: SOUTHNAVFACENCOM		Contractor: Groundwater Protection, Inc.	Job No.: CTO-107
Northing: 1544108.03	Easting: 553258.84	Date started: 05/18/95	Compltd: 05/18/95
Method: 6.25" Hollow stem auger	Casing dia.: 2 in.	Screened Int.: 4.5-14.5 ft.	Protection level: D
TOC elev.: 108.81 Ft.	Type of OVM: Porta FID	Total dpth: 18Ft.	Dpth to ∇ 10 * Ft.
ABB Rep.: S. Grietens	Well development date: 05/18/95		Site: Study Area 01

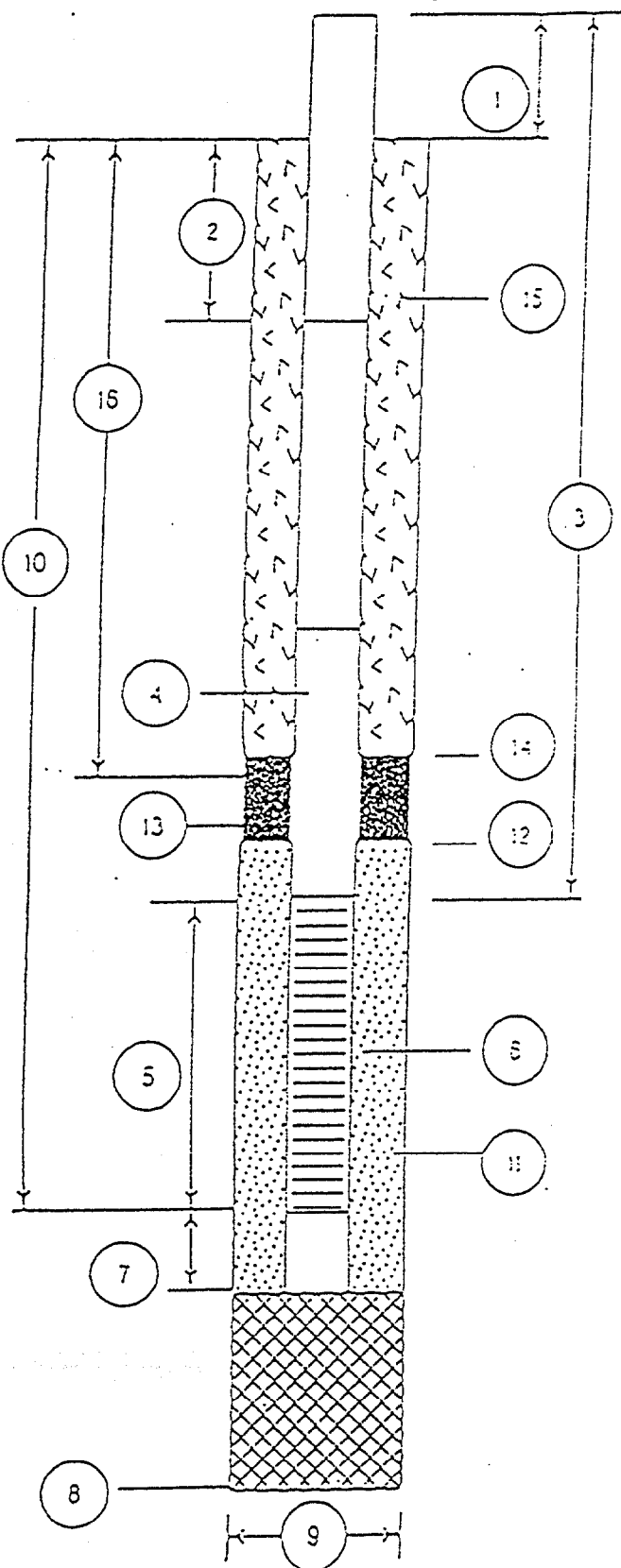
Depth Ft.	Laboratory Sample ID.	Sample Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.	Well diag.
		ph	0	QUARTZ SAND: Gray to white, fine-grained, trace silt, loose.		SP	posthole	
		ph	0				posthole	
			0	QUARTZ SAND: White, fine-grained, loose.			5,4,8,8	
5		85%	0				5,8,9,15	
		70%	0				8,11,15,20	
10		60%	0				4,10,11,12	
		70%	0				3,8,11,10	
			0	QUARTZ SAND: Black to brown, fine-grained, trace silt.			7,8,8,13	
		85%	0					
15		90%	0					
				* = approximate depth				
20								

DEPARTMENT OF THE NAVY
SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
CHARLESTON, SC.

WELL CONSTRUCTION DETAIL

WELL NUMBER: OLD-01-01

DATE OF INSTALLATION: 8/29/94



1. Height of Casing above ground: 0

2. Depth to first Coupling: 3'

Coupling Interval Depth: 10'

3. Total Length of Riser Pipe: 3'

4. Type of Riser Pipe: 2" ϕ Schedule 40 PVC

5. Length of Screen: 10'

6. Type of Screen: 2" ϕ Schedule 40 PVC .010 slot screen

7. Length of Sump: 6"

8. Total Depth of Boring: 13.5'

9. Diameter of Boring: 6.25"

10. Depth to Bottom of Screen: 13'

11. Type of Screen Filter: 20/30 Silica Sand

Quantity Used: 275 lb Size:

12. Depth to Top of Filter: 2'

13. Type of Seal: Bentonite

Quantity Used: 25 lb

14. Depth to Top of Seal: 1.5'

15. Type of Grout: Portland Cement

Grout Mixture:

Method of Placement: POURED

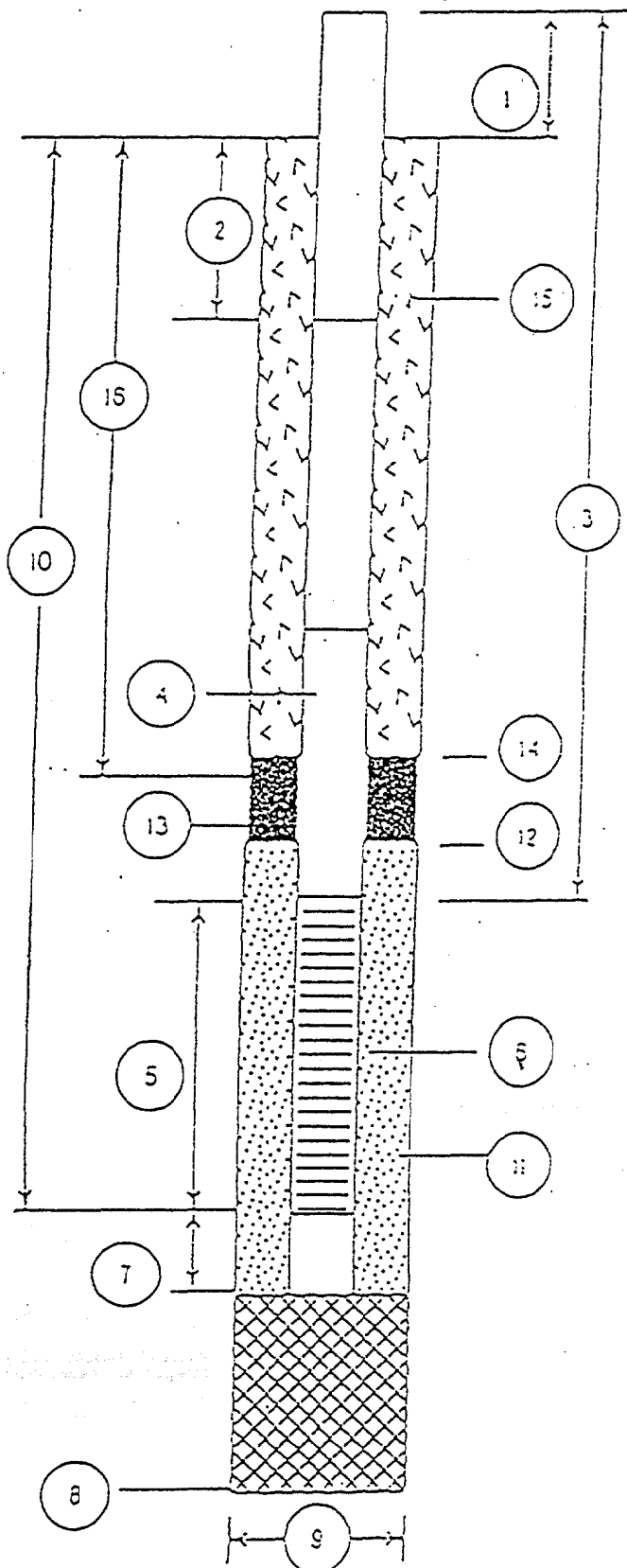
16. Tot. Depth of 6 in. Steel Casing: N/A

DEPARTMENT OF THE NAVY
SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
CHARLESTON, SC.

WELL CONSTRUCTION DETAIL

WELL NUMBER: 010-01-02

DATE OF INSTALLATION: 8/30/94



1. Height of Casing above ground: 0

2. Depth to first Coupling: 3'

Coupling Interval Depths: 10'

3. Total Length of Riser Pipe: 3'

4. Type of Riser Pipe: 2" ϕ Schedule 40 PVC

5. Length of Screen: 10'

6. Type of Screen: 2" ϕ Schedule 40 PVC, .010 Slot S. S. S.

7. Length of Sump: 6"

8. Total Depth of Boring: 13.5'

9. Diameter of Boring: 6.25"

10. Depth to Bottom of Screen: 13'

11. Type of Screen Filter: 20/30 Silica Sand

Quantity Used: 275 lb

Size:

12. Depth to Top of Filter: 2'

13. Type of Seal: Bentonite

Quantity Used: 25 lb

14. Depth to Top of Seal: 1.5'

15. Type of Grout: Portland Cement

Grout Mixture:

Method of Placement: POURED

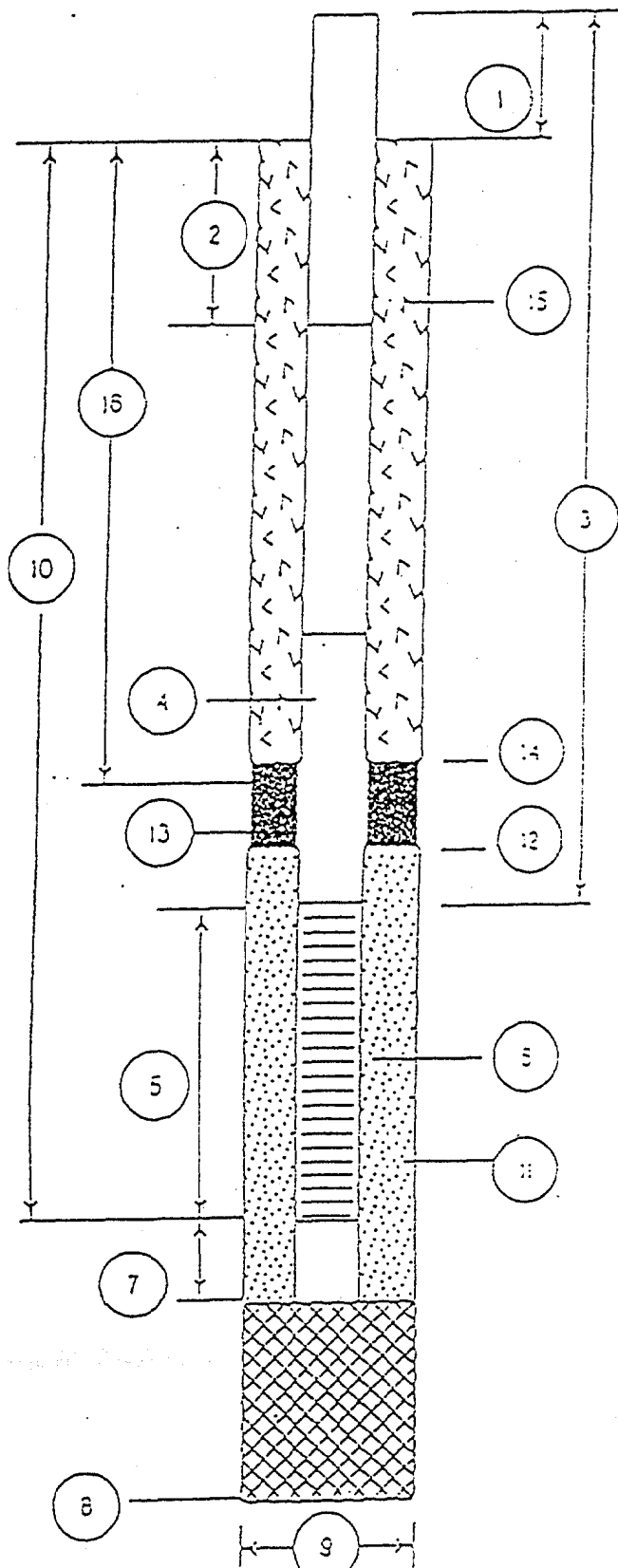
16. Tot. Depth of 6 in. Steel Casing: N/A

DEPARTMENT OF THE NAVY
SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
CHARLESTON, SC.

WELL CONSTRUCTION DETAIL

WELL NUMBER: OLD-01-03

DATE OF INSTALLATION: 8/30/9



1. Height of Casing above ground: 0

2. Depth to first Coupling: 3'

Coupling Interval Depths: 10'

3. Total Length of Riser Pipe: 3'

4. Type of Riser Pipe: 2" ϕ Schedule 40 PVC

5. Length of Screen: 10'

6. Type of Screen: 2" ϕ Schedule 40 PVC .010 Slot Size

7. Length of Sump: 6"

8. Total Depth of Boring: 14'

9. Diameter of Boring: 6.25"

10. Depth to Bottom of Screen: 12.5'

11. Type of Screen Filter: 20/30 Silica Sand

Quantity Used: 275 lb

Size:

12. Depth to Top of Filter: 2'

13. Type of Seal: Bentonite

Quantity Used: 25 lb

14. Depth to Top of Seal: 1.5'

15. Type of Grout: Portland Cement

Grout Mixture:

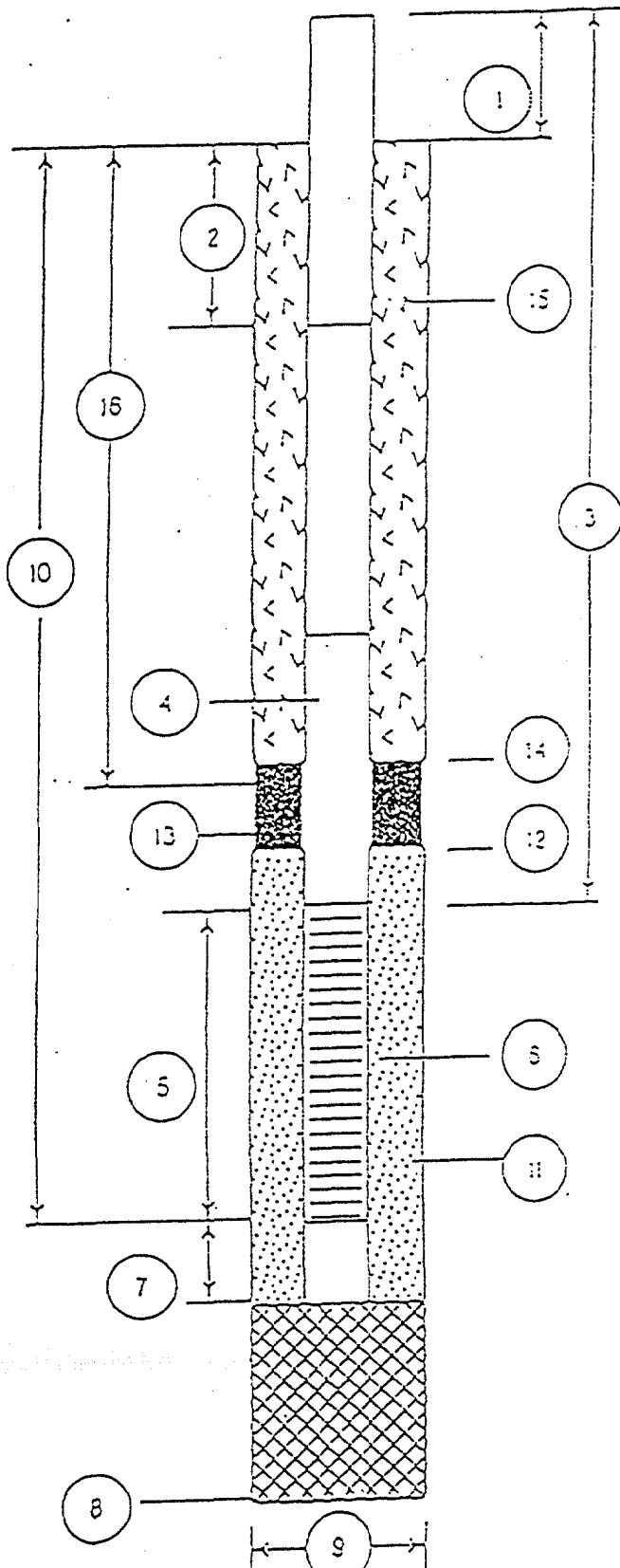
Method of Placement: POURED

16. Tot. Depth of 6 in. Steel Casing: N/A

WELL CONSTRUCTION DETAIL

WELL NUMBER: OLD-01-04

DATE OF INSTALLATION: 8/29/94

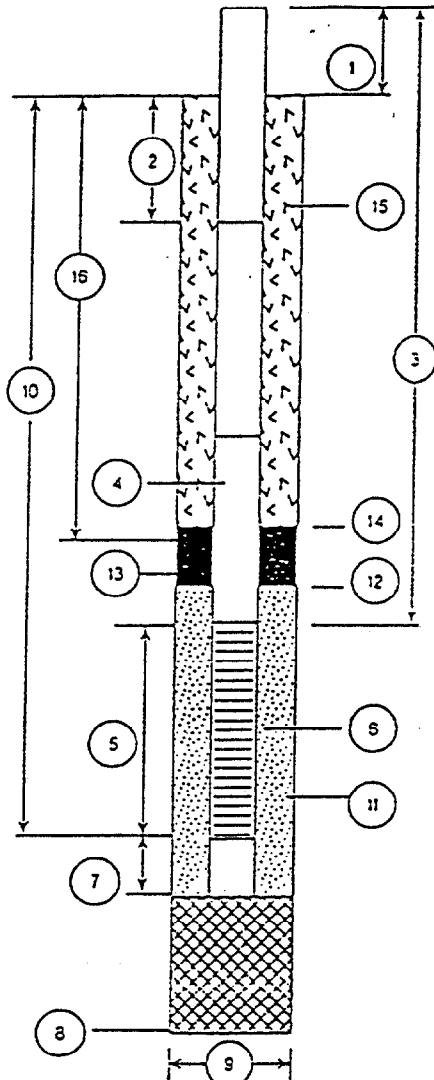


1. Height of Casing above ground: 0
2. Depth to first Coupling: 3'
Coupling Interval Depths: 10'
3. Total Length of Riser Pipe: 3'
4. Type of Riser Pipe: 2" ϕ Schedule 40 PVC
5. Length of Screen: 10'
6. Type of Screen: 2" ϕ schedule 40 PVC .010 Slot Screen
7. Length of Sump: 6"
8. Total Depth of Boring: 13.5'
9. Diameter of Boring: 6.25"
10. Depth to Bottom of Screen: 13'
11. Type of Screen Filter: 20/30 Silica Sand
Quantity Used: 250 lb Size:
12. Depth to Top of Filter: 2'
13. Type of Seal: Bentonite
Quantity Used: 20 lb
14. Depth to Top of Seal: 1.5'
15. Type of Grout: Portland Cement
Grout Mixture:
Method of Placement: PAKED
16. Tot. Depth of 8 in. Steel Casing: N/A

DEPARTMENT OF THE NAVY
SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
CHARLESTON, SC.

WELL CONSTRUCTION DETAIL

WELL NUMBER: OLD - 01-06 ^{05 EPR}
DATE OF INSTALLATION: 5/12/95



1. Height of Casing above ground: 0
2. Depth to first Coupling: 4'
Coupling Interval Depths: 10'
3. Total Length of Riser Pipe: 4'
4. Type of Riser Pipe: 2" DIA. PVC
5. Length of Screen: 10'
6. Type of Screen: 2" DIA. PVC, .010 SLOT
7. Length of Sump: 6"
8. Total Depth of Boring: 16'
9. Diameter of Boring: 6.25"
10. Depth to Bottom of Screen: 14.5'
11. Type of Screen Filter: ---
Quantity Used: 600lb. Size: 20/30
12. Depth to Top of Filter: 2'
13. Type of Seat: PEUTONITE
Quantity Used: 25. lb.
14. Depth to Top of Seat: 1.5'
15. Type of Grout: NEAT CEMENT
Grout Mixture: 15% PEUTONITE, 85% PORTLAND
Method of Placement: POURED.
16. Tot. Depth of 8 in. Steel Casing: N/A

COMMENTS ON INSTALLATION

WELL CONSTRUCTION DETAIL



PROJECT OPERATIONS PLAN

NAVAL TRAINING CENTER
ORLANDO, FLORIDA

APPENDIX B
GEOPHYSICAL SURVEYS

TECHNICAL MEMORANDUM
GEOPHYSICAL SURVEYS
SITE-SCREENING INVESTIGATIONS
STUDY AREA 1

The following is a summary of the significant findings of the geophysical surveys that took place between July 28 and August 23, 1994, at Naval Training Center, Orlando. This geophysical survey took place at Study Area 1, the alleged Naval Hospital Landfill.

Geophysical surveys at the alleged hospital landfill included a magnetometer and terrain conductivity (TC) survey (with a 10-by-10-foot measurement grid), which was followed by a ground-penetrating radar survey (GPR).

The magnetic method is a versatile geophysical technique used for evaluating shallow geologic structures and for locating buried manmade objects and buried debris by mapping local distortions in the earth's magnetic field produced by buried magnetic objects (steel and other magnetic materials). Vertical gradient measurements of the earth's magnetic field are often taken during environmental magnetic surveys, as they are more sensitive to the presence of near-surface metal objects than total field values alone.

TC surveys, also referred to as EMI (electro-magnetic induction) surveys, have traditionally been used in mineral exploration for tracing conductive ore bodies (i.e., massive sulfides). More recently, conductivity surveys have been used in environmental studies for mapping buried debris and former structures, and for tracing conductive contaminant plumes in groundwater. TC instruments record two parameters, the quadrature phase and the inphase components of an induced magnetic field. The quadrature-phase component is a measure of the ground conductivity value expressed in millimhos per meter. The inphase component is significantly more sensitive to metallic objects and is useful for looking for buried tanks and drums and other manmade objects.

The GPR technique uses high frequency radio waves to determine the presence of subsurface objects and structures. The radio wave energy is reflected from surfaces where there is a contrast in the electrical properties of subsurface materials, such as naturally occurring geologic horizons or manmade objects (e.g., buried utilities, tanks, drums). Typical applications for GPR include mapping buried utilities, and delineating the boundaries of buried hazardous waste materials and abandoned landfills.

Below is a discussion of the results of this investigation.

No geophysical anomalies were observed indicative of landfill materials, although a number of strong anomalies reflective of roadways, buried utilities, and other structures were observed. Figure 1 shows the approximate location of the geophysical grid completed at Study Area 1, and Figures 2, 3, and 4 present the vertical gradient (magnetic) contours, quadrature (conductivity) contours, and in phase (roughly equivalent to a metal detector) contours for the geophysical data.

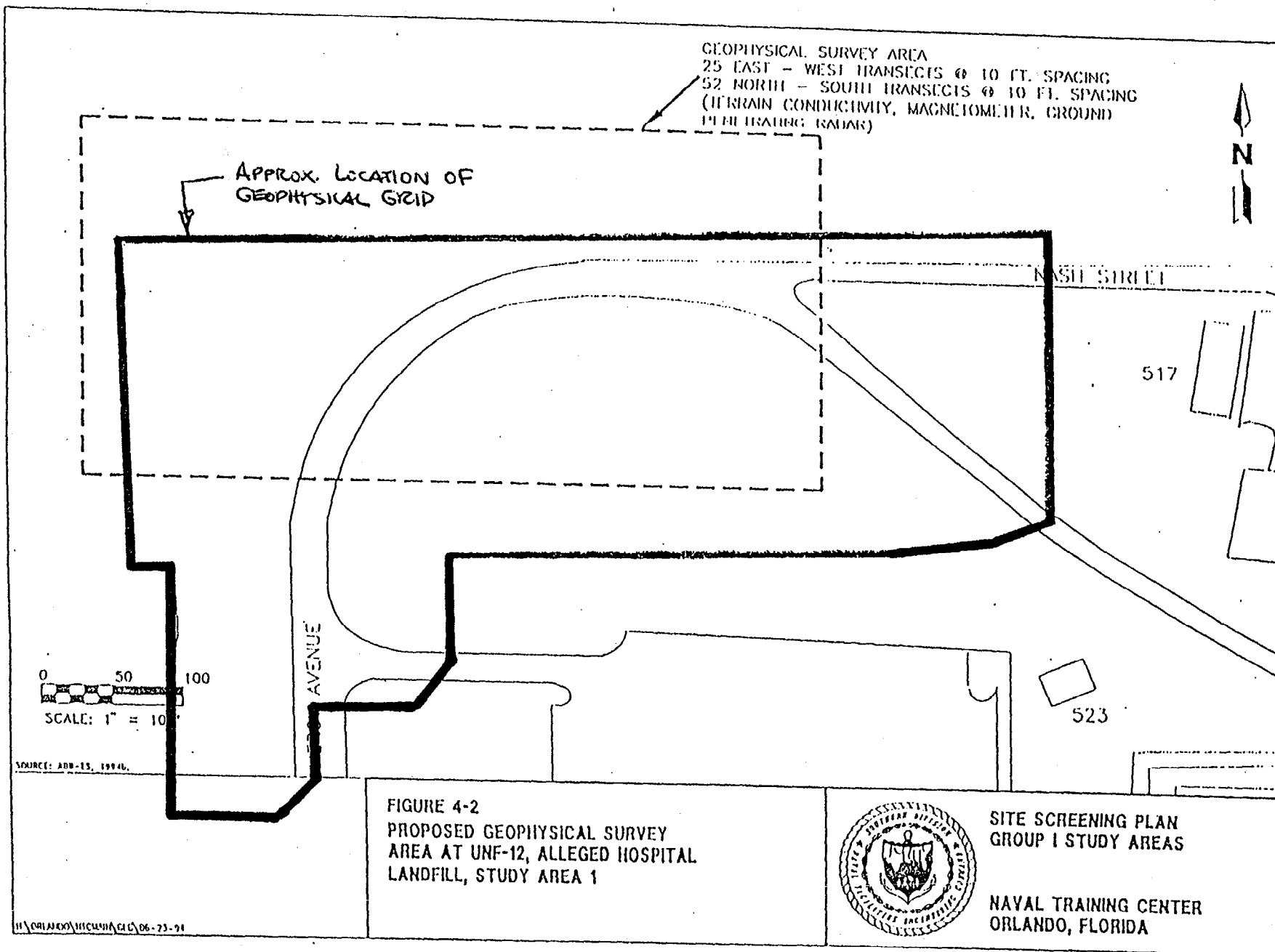


Figure 1

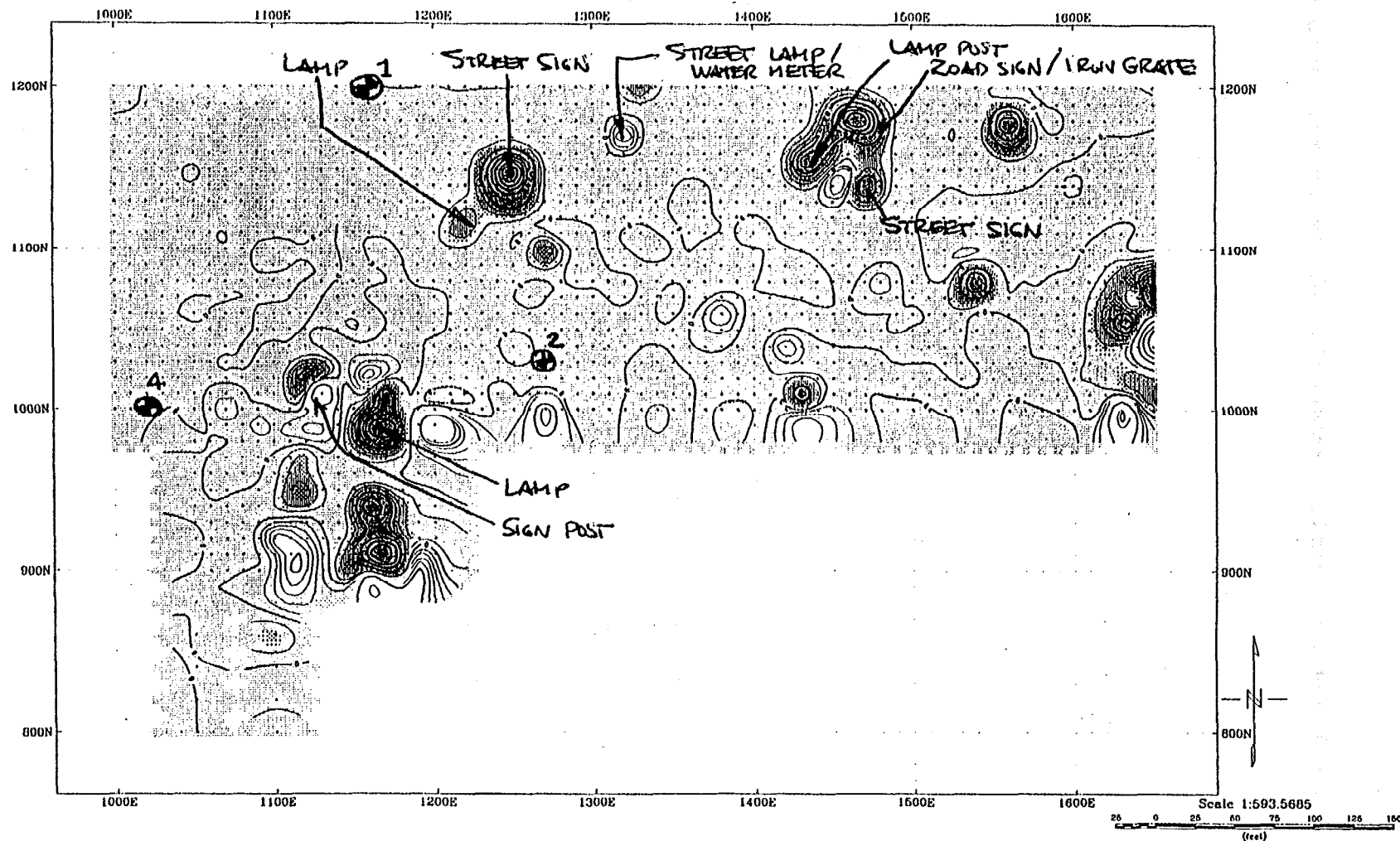


Figure 2

NAVY CLEAN	
VERTICAL GRADIENT CONTOURS	
SA 01 - ALLEGED HOF	AL LANDFILL
SSP - GROUP 1	AREAS
ABB ENVIRONMENTAL SERVICES, INC.	

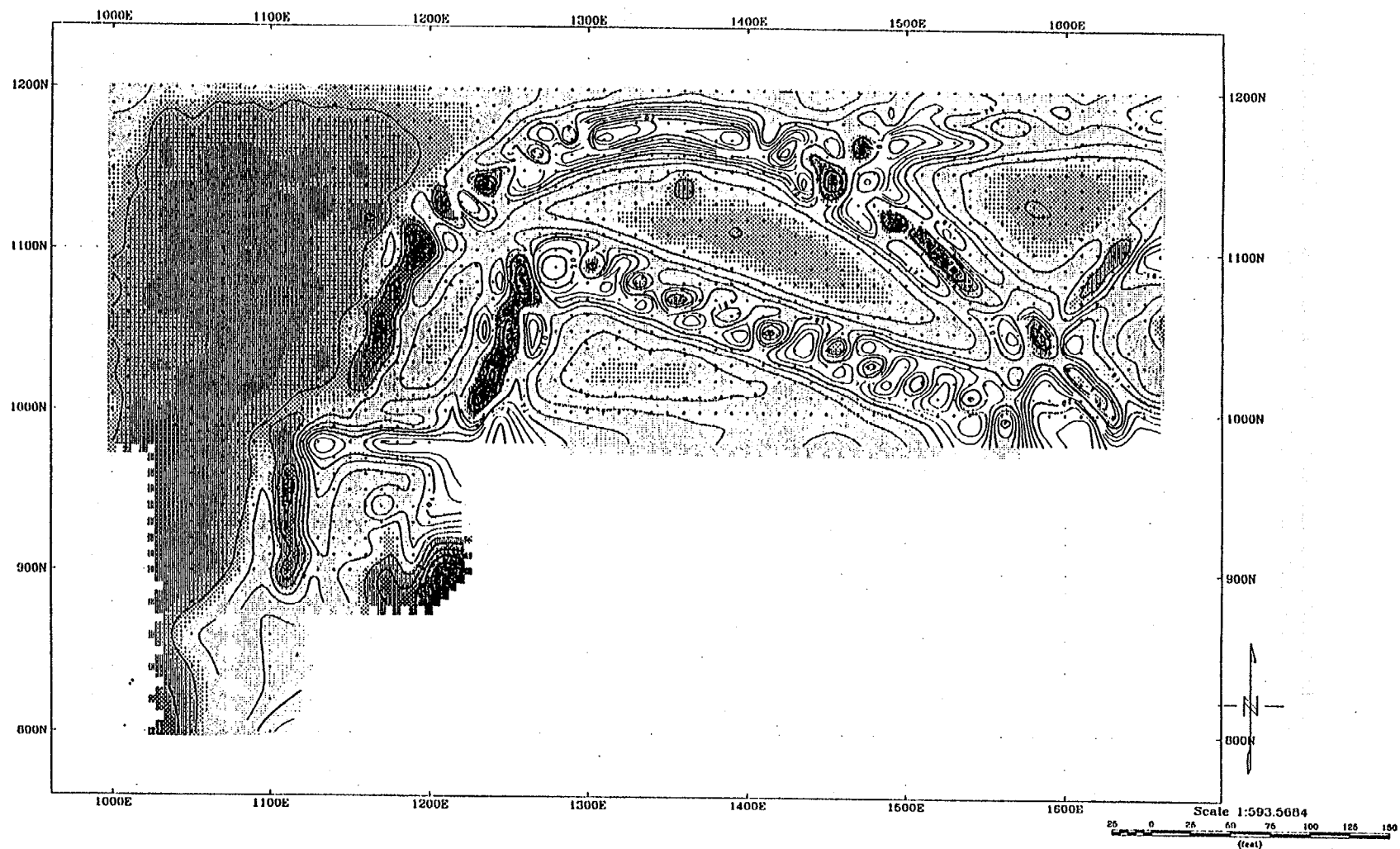


Figure 3

NAVY CLEAN
QUADRATURE CONTOURS
SA 01 - ALLEGED HOSPITAL LANDFILL
SSP - GROUP 1 STUDY AREAS
ADD ENVIRONMENTAL SERVICES, INC.

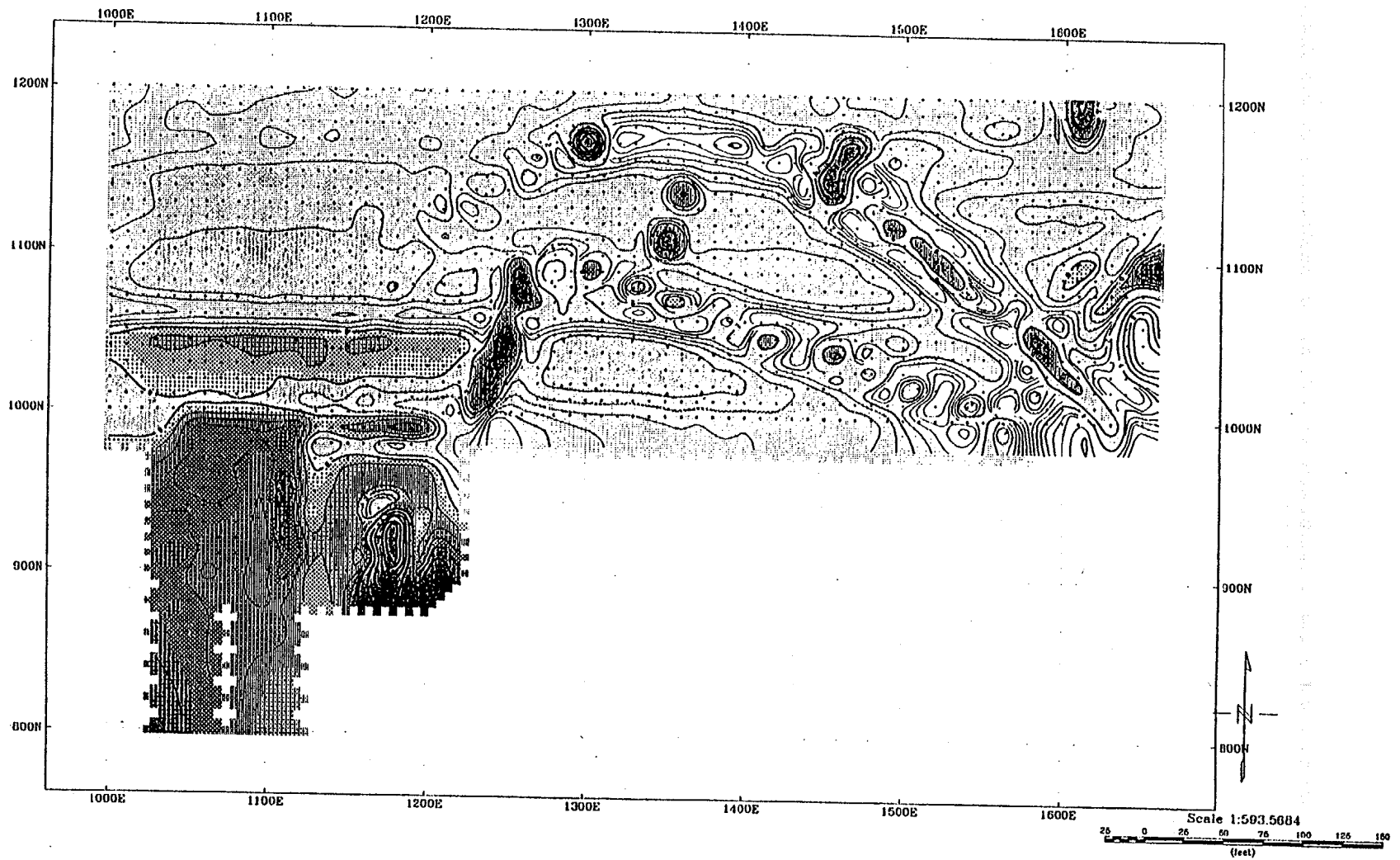


Figure 4

NAVY CLEAN
IN PHASE (TC) CONTOURS
SA 01 - ALLEGED HOSPITAL LANDFILL
SSP - GROUP 1 AREAS
ABB ENVIRONMENTAL SERVICES, INC.

APPENDIX C

SOIL GAS SURVEY FINDINGS

FINAL REPORT ON THE FINDINGS OF
THE PETREX SOIL GAS SURVEYS
STUDY AREA 1

Naval Training Center (NTC), ORLANDO, FLORIDA

1.0 Executive Summary

The information contained herein has been extracted from the Northeast Research Institute, LLC (NERI) report so that only information pertinent to Study Area 1 at NTC, Orlando is included. The complete report contains detailed information on quality assurance and quality control procedures, thermal desorption-mass spectrometry, and data tables. In addition, only those figures (Plates 5 through 8) relevant to Study Area 1 are included. This document may be obtained from ABB-Environmental Services, Inc. (ABB-ES), Orlando, Florida.

Benzene, toluene, and ethylbenzene, and xylene(s) (BTEX), the cycloalkane/alkene petroleum hydrocarbons, and tetrachloroethene (PCE) were detected in soil gas at the study area. The distribution of the compound occurrences were mapped and potential source areas were identified. Low levels and limited occurrences for all compounds were identified at Study Area 1.

2.0 Introduction

In August and September 1994, ABB-ES subcontracted NERI, under Subcontract No. SE4-09-027, to conduct a PETREX passive soil gas survey at the NTC, Orlando in Orlando, Florida. The purpose of this survey was to assist in site-screening activities to assess the environmental impact from past site use at Study Area 1. This area was screened for volatile and semivolatile organic compounds (VOCs and SVOCs) that may be present in the soil gas.

Study Area 1, located in the northeast corner of the NTC Complex to the west of the hospital, was used to dispose of building debris from Air Force medical buildings dismantled at the NTC in the late 1970s.

3.0 Objectives

The objectives of this soil gas survey were to

1. collect and report VOCs and SVOCs as constituents of the soil gas;
2. map the areal extent of the reported compounds in order to exhibit areas of potential subsurface contamination; and
3. attempt to determine the extent of potential source areas of the reported compounds in the subsurface.

4.0 Overview of the PETREX Technique

Each PETREX soil gas sampler consists of two or three activated charcoal adsorption elements (collectors) housed in a resealable glass container in an inert atmosphere.

Soil gas sample collection is performed by unsealing the sampler and exposing the collector to the soil gas of the subsurface environment at the base of a shallow borehole. Sample collection proceeds via free vapor diffusion through the opening of the uncapped sampler container. Following a controlled period of time, the sampler is retrieved from the borehole, resealed, and submitted for analysis.

One collector from each soil gas sampler is analyzed by Thermal Desorption/Mass Spectrometry (TD/MS). Selected second collectors may be analyzed by Thermal Desorption-Gas Chromatography/Mass Spectrometry (TD-GC/MS) for compound confirmation. At least 10 percent of samplers used in any project are three collector samplers. The third collector is used for setting instrument sensitivity prior to analysis.

Compounds are identified by comparison to standard reference spectra run on the same instrument. The mass spectral ion count of the appropriate indicator peak(s) for each compound or group of compounds is then plotted as relative response on a map and contoured using a variety of standard geostatistical analyses.

5.0 Scope of Work

A total of 47 PETREX soil gas samplers was utilized for this survey. At a majority of the sampler locations, a 2-inch-diameter by 12-inch deep hole was excavated into the surface soil using a core shovel. After the sampler was lowered into the hole, the hole was backfilled with the soil plug taken from the shovel. Each sampler location was marked with a pin flag and ribbon flagging to help locate it during retrieval.

At the remaining sampler locations, located in asphalt, a 1-3/4-inch-diameter by 18-inch deep hole was excavated through the asphalt into the underlying soil using an electric rotary hammer drill equipped with a carbide-tipped bit. A 2-foot length of 18-gauge galvanized steel wire was attached to the sampler and the sampler was lowered into the borehole. A ball of aluminum foil was packed to within 1 inch of the surface, and the last inch was filled with quick-setting cement.

Field procedures for this survey also included decontamination of the borehole equipment between sampler locations to prevent cross-contamination. The methods employed were as follows:

1. equipment (core-shovel head and drill bit) was washed thoroughly with laboratory detergent and potable water, using a nylon brush to remove particulate matter
2. equipment was rinsed thoroughly with deionized/organic-free water

3. equipment was rinsed with a 10 percent solution of pesticide-grade isopropanol
4. equipment was rinsed again with deionized/organic-free water and air-dried

Retrieval of samplers placed in soil entailed removing the soil plug from the hole and lifting out the sampler, which was then cleaned, sealed, and labeled with the sampler location number. Samplers placed beneath asphalt were retrieved by first chipping away the cement patch to expose the retrieval wire, then pulling gently on the wire to lift the sampler out of the borehole. The retrieval wire was removed from the sampler and the sampler was then cleaned, sealed, and labeled.

6.0 Field Activities

Between August 15 and August 19, 1994, two NERI Field Geologists, assisted by ABB-ES personnel, conducted PETREX soil gas sampling onsite. A total of 47 PETREX samplers was placed onsite. The samplers were placed in approximate 50-foot square grids, as shown on Plate 5, Sample Locations Map.

Two sets of time calibration samplers were installed at 3 established sampling points in each of the 5 study areas, for a total of 30 samplers. One set of these time calibration samplers was retrieved after 2 days and analyzed to check on the loading rate of VOCs onto the collectors. After reviewing the results from these time calibration samplers, it was determined to retrieve the second set of time calibration samplers after an additional 7 days of exposure in the field. Based on the results of these time calibration samplers, it was decided to retrieve all of the survey samplers after a further 7 days.

After an exposure period of approximately 14 to 16 days, the samplers were retrieved by a NERI Field Geologist between August 31 and September 2, 1994, and returned to NERI's Lakewood, Colorado, laboratory for analysis by Thermal Desorption-Mass Spectrometry (TD-MS).

7.0 Discussion

The soil gas response levels discussed below are described as elevated and moderate relative to the entire data set. The ion count values that have been reported represent qualitative soil gas values that were evaluated relative to the other sampler locations.

Ion count values are the unit of measure generated by the mass spectrometer to illustrate the relative intensities associated with each of the reported compounds. These response levels do not represent an actual concentration of the reported compounds but are used to differentiate source areas from migration/dispersion pathways.

Study Area 1 was used to dispose of building debris from Air Force medical buildings dismantled at the NTC in the 1970s. Therefore, the potential exists that contaminants were buried at this site with the building debris, including hospital waste, solvents and petroleum products. Plate 5 displays the locations of the 47 samplers placed at Study Area 1.

Samplers 43, 44, 45, 46, 53, 55, 61, 66, 67, and 71 were all affected by terpenes, and, therefore, petroleum hydrocarbons could not be reliably reported at these sample locations. The majority of these samplers were placed near pine trees, which are most likely the source for the terpenes. However, samplers 53, 66, and 67 were not in the vicinity of pine trees, and so the terpene responses at these sample locations may be related to a manufactured product such as turpentine.

7.1 BTEX Relative Response Map

The distribution of BTEX as detected in soil gas is shown on Plate 6. Elevated response levels were detected at isolated locations throughout the site. Very low levels were detected at sample locations 38, 51, 52, 54, 60 and 69. The soil gas response levels detected at sample locations 49 and 59 may represent detectable concentration levels in the subsurface. The discrete nature of these detections may reflect disposal practices, but do not represent spatially continuous responses normally associated with a contaminant plume in the subsurface.

7.2 Cycloalkanes/Alkenes Relative Response Map

Potentially significant occurrences of the cycloalkanes/alkenes, as determined by the number of samples exhibiting elevated response, were detected west of Mercy Avenue, in the southwestern portion of the survey area. Isolated occurrences were identified in the central portion of the survey area, and correspond to the distribution of BTEX. The distribution of the cycloalkanes/alkenes is shown on Plate 7.

7.3 Tetrachloroethene Relative Response Map

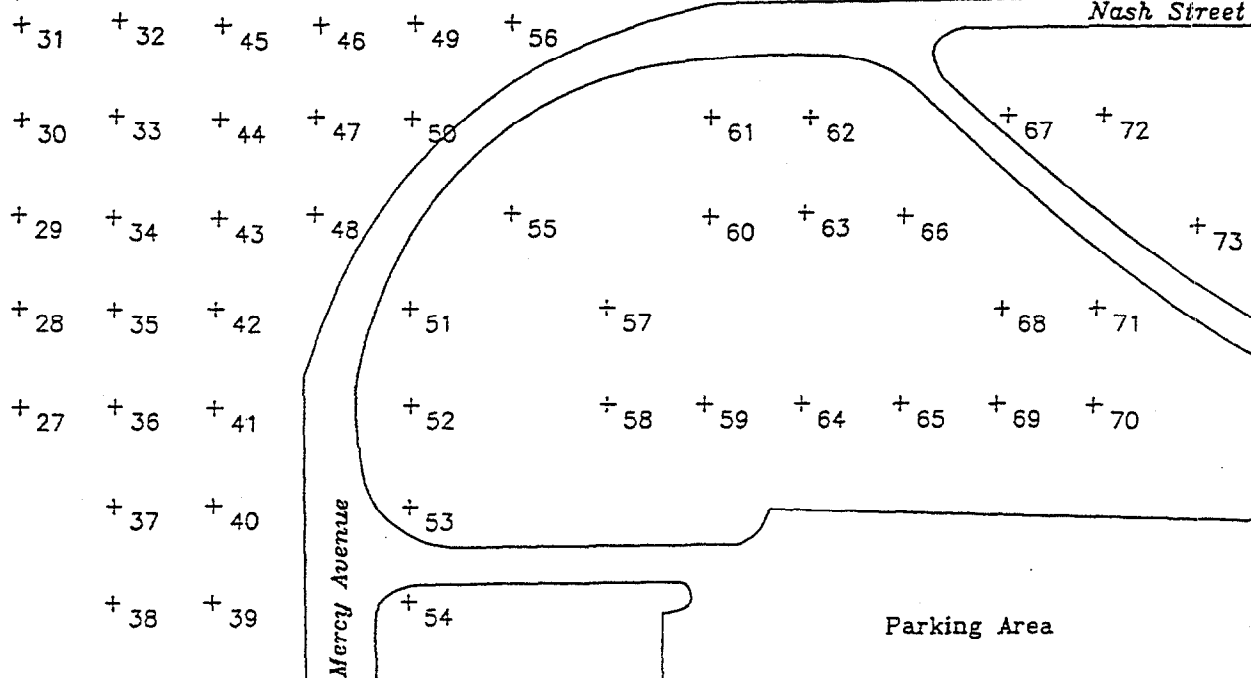
PCE was detected at sample locations 38, 45, 46, 53, and 60. The response levels detected are considered extremely low and may or may not represent detectable levels in the subsurface. The distribution of PCE as detected in soil gas is shown on Plate 8.

8.0 Conclusions

BTEX, the cycloalkane/alkene petroleum hydrocarbons, and PCE were detected in soil gas. The distribution of the compound occurrences were mapped and potential source areas were identified. Low levels and limited occurrences for all compounds were identified at Study Area 1. Though the areal distribution of the compounds detected extend beyond the survey boundaries at the site, the levels detected do not indicate potentially significant chemical occurrences beyond the site of investigation.

Because soil gas emanation rates are site and chemical specific, the environmental significance of the soil gas response values must be determined relative to compound concentrations in subsurface soil and/or groundwater. Changes in soil gas response in orders of magnitude may be used to plan future investigative studies, and to aid in characterizing the behavior (migration, attenuation) of

the chemicals in the subsurface. The PETREX method is extremely sensitive and often detects compounds in the low part per billion to part per trillion range; therefore, areas depicted as background by the PETREX method generally do not represent environmentally significant contaminant levels in the subsurface.



523

LEGEND

Features:

+ PETREX Sample Location



Northeast Research Institute LLC
605 Parlet Street
Suite 100
Lakewood, Colorado 80215
(303) 238-0090

Drawn By:

JCS

Checked By:

CAS

Project #:

2158E

Date:

October 5, 1994

Project Manager:

CAS

File Name:

2158-1_1.dwg

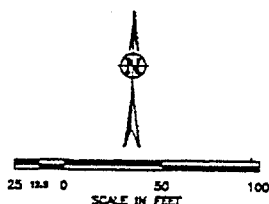
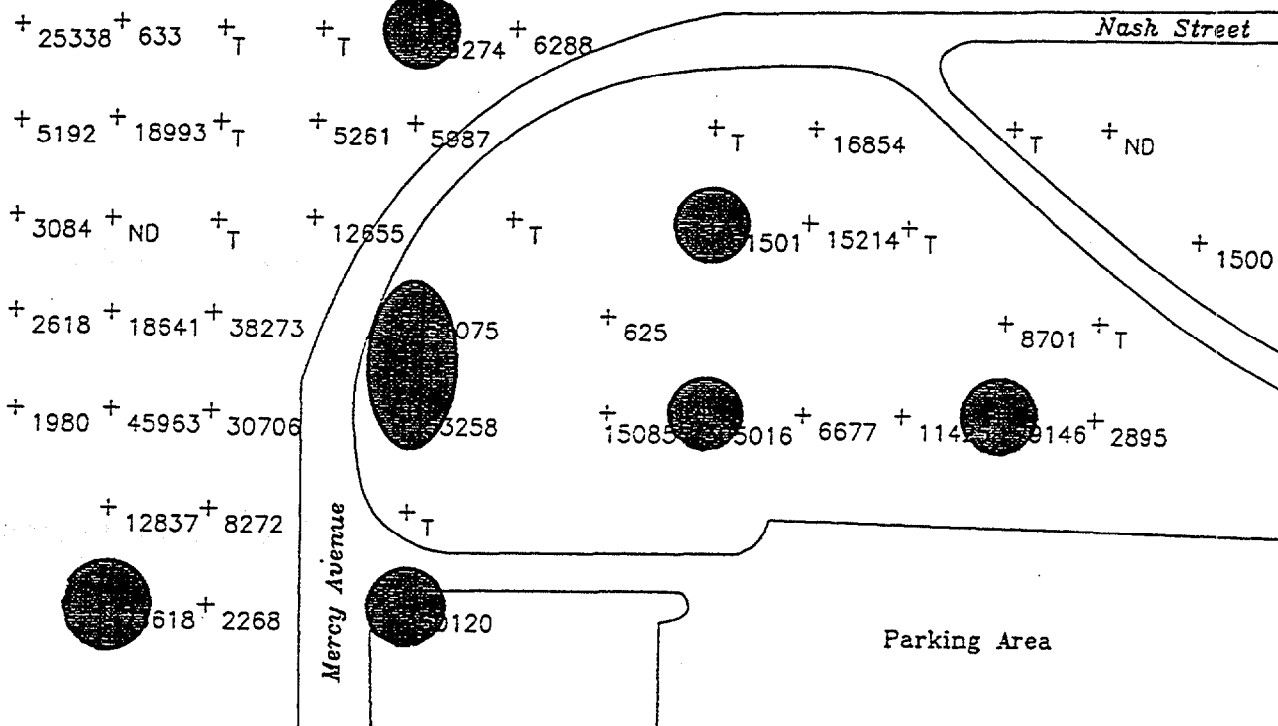
ABB-Environmental Services, Inc.

Naval Training Center UNF-12, Study Area 1
Orlando, Florida



Sample Locations

Plate 5



LEGEND	
Relative Response Values:	Features:
≥ 50,000	+ PETREX Sample Location
	T Samples affected by terpenes. See text for explanation.

NERI
Northeast Research Institute LLC
605 Parfet Street
Suite 100
Lakewood, Colorado 80215
(303) 238-0090

Drawn By:
JCS

Project #:
2158E

Checked By:

Date:
October 5, 1994

Project Manager:
CAS

File Name:
2158-1_2.dwg

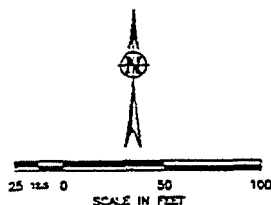
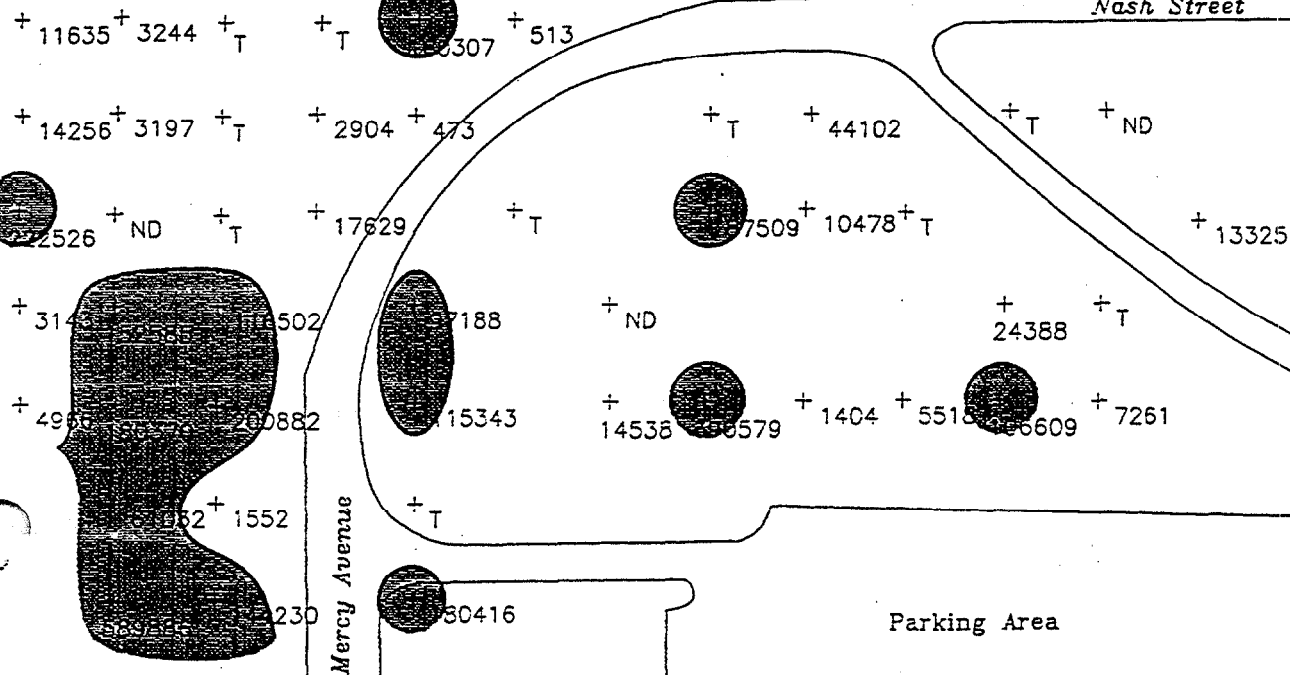
ABB-Environmental Services, Inc.

Naval Training Center UNF-12, Study Area 1
Orlando, Florida



Relative Response
Benzene, Toluene,
Ethylbenzene, Xylene(s)

Plate 6



LEGEND	
Relative Response Values:	Features:
■ > 50,000	+ PETREX Sample Location
	T Samples affected by terpenes. See text for explanation.



605 Perlet Street
Suite 100
Lakewood, Colorado 80215
(303) 238-0090

Drawn By:	Project #:
JCS	2158E
Checked By:	Date:
	October 5, 1994
Project Manager:	File Name:
CAS	2158-1_3.dwg

ABB-Environmental Services, Inc.

Naval Training Center UNF-12, Study Area 1
Orlando, Florida



Relative Response
Cycloalkanes/Alkenes

Plate 7

APPENDIX D

**SUMMARY OF DETECTIONS IN SOIL AND
GROUNDWATER ANALYTICAL RESULTS**

BRAC Environmental Site-Screening Report
Naval Training Center
Orlando, Florida

Identifier:	Background Screening ¹ (subsurface/ surface)	SCG ²	RBC ³ for Residential Soil	RBC ³ for Industrial Soil	01B00101 29-Aug-94 7	01B00201 30-Aug-94 6	01B00301 30-Aug-94 6	01B00401 29-Aug-94 6	01B00501 ⁴ 07-Sep-94 2	01S00501 ⁴ 26-Aug-94 1
Volatile Organic Compounds (µg/kg)										
Acetone	--	260,000	7,800,000 n	200,000,000 n	--	36 J	25 J	--	--	--
Semivolatile Organic Compounds (µg/kg)										
bis(2-Ethylhexyl)- phthalate	390/--	16,000	46,000 c	410,000 c	--	--	--	--	--	160 J
Di-n-butylphthalate	560/442	7,300,000	7,800,000 n	20,000,000 n	290 J	520	410 J	320 J	560	950
Pesticides/PCBs (µg/kg)										
4,4'-DDE	130/39.2	3,000	1,900 c	17,000 c	--	--	--	--	4.9	17
4,4'-DDT	87/22.8	3,100	1,900 c	17,000 c	--	--	--	--	14	38
alpha-Chlordane	43/6.1	800	490 c	4,400 c	--	--	--	--	5	5.3
gamma-Chlordane	43/4.3	800	490 c	4,400 c	--	--	--	--	4.4	5.6
Dieldrin	--/95	70	40 c	360 c	1.4 J	--	--	--	2.6 J	11
Inorganic Analytes (mg/kg)										
Aluminum	2,119/2,088	75,000	78,000 n	1,000,000 n	252	354	204	148	--	896
Arsenic	1.1/1.0	0.8	0.43 c/23 n	3.8 c/610 n	0.68 B	--	--	--	--	--
Barium	3.6/8.7	5,200	5,500 n	140,000 n	--	--	--	--	2.3 B	213
Calcium	115/25,295	ND	1,000,000	1,000,000	79.2 B	118 B	60.4 B	--	104 B	11,700
Chromium	3.7/4.6	290	390 n	10,000 n	--	--	--	--	--	5.6
Cobalt	1.6/--	4,700	4,700 n	120,000 n	--	--	--	--	--	0.65 B
Copper	--/4.1	ND	3,100 n	82,000 n	--	--	--	--	0.59 B	19.1
Iron	264/712	ND	23,000 n	610,000 n	136 J	80.1 J	48.3 J	193 J	--	635 J
Lead	3.9/14.5	500	400	400	--	0.26 B	--	--	10.5 J	211
Magnesium	32.8/328	ND	460,468	460,468	6.9 B	6.2 B	--	--	--	284 B
Manganese	2.1/8.1	370	1800 n	47,000 n	0.36 B	--	--	0.94 B	0.47 B	16.1
See notes at end of table.										

Table D-1 (Continued)
Summary of Detections in Soil Analytical Results, Study Area 1

BRAC Environmental Site-Screening Report
Naval Training Center
Orlando, Florida

Identifier	Background Screening ¹ (subsurface/ surface)	SCG ²	RBC ³ for Residential Soil	RBC ³ for Industrial Soil	01B00101 29-Aug-94 7	01B00201 30-Aug-94 6	01B00301 30-Aug-94 6	01B00401 29-Aug-94 6	01B00501 ⁴ 07-Sep-94 2	01S00501 ⁴ 26-Aug-94 1
Sampling Date										
Feet bls										
Inorganic Analytes (mg/kg) (Continued)										
Mercury	--/0.07	23	23 n	610 n	--	0.01 B	--	--	0.03 B	0.73
Nickel	--/4.4	1,500	1,600 n	41,000 n	4.3 B	--	--	--	--	3.8 B
Potassium	185/157	ND	1,000,000	1,000,000	--	--	--	--	--	83.2 B
Selenium	1.3/0.9	390	390 n	10,000 n	--	--	--	--	--	--
Silver	--/1.8	390	390 n	10,000 n	0.67 B	--	--	--	--	--
Sodium	--/91.4	ND	1,000,000	1,000,000	--	--	--	--	--	119 B
Vanadium	3.4/3.1	490	550 n	14,000 n	--	--	--	--	--	1.2 B
Zinc	5.6/17.2	23,000	23,000 n	610,000 n	--	--	--	--	--	79.9

¹ Background values are for subsurface soils and surface soils, respectively. The background screening value is twice the average of detected background concentrations for inorganic analytes. For organic compounds, values are the mean of detected background concentrations, presented for comparison purposes only.

² SCG = Soil Cleanup Goals for Florida (Florida Department of Environmental Protection (FDEP) memorandum, September 29, 1995). Arsenic value is as revised in Applicability of Soil Cleanup Goals for Florida (FDEP memorandum, January 19, 1996). Values indicated are from a residential scenario. Chromium values are for chromium VI. These values apply only to surface soil (samples 01S00501 and 01B00501).

³ RBC = Risk-Based Concentration Table, U.S. Environmental Protection Agency Region III, May 1996, R.L. Smith. RBC for chromium is based on chromium VI. RBC for lead is not available, value is Interim Guidance on Establishing Soil Lead Cleanup Levels at Superfund Sites (OSWER directive 9355-4-12). For essential nutrients (calcium, magnesium, potassium, and sodium) screening values were derived based on recommended daily allowances.

⁴ Samples collected in the vicinity of Building 3126.

Notes: All inorganic results expressed in milligrams per kilogram soil dry weight; organics in micrograms per kilogram soil dry weight.

BRAC = Base Realignment and Closure.

bls = below land surface.

µg/kg = micrograms per kilogram.

-- = analyte/compound not detected at reporting limit.

n = noncarcinogenic effects.

J = reported concentration is an estimated quantity.

c = carcinogenic effects.

PCB = polychlorinated biphenyl.

DDE = dichlorodiphenyldichloroethene.

DDT = dichlorodiphenyltrichloroethane.

B = reported concentration is between the instrument detection limit and the contract-required detection limit.

ND = not determined.

BRAC Environmental Site-Screening Report
Naval Training Center
Orlando, Florida

[illegible]

APPENDIX E

SUMMARY OF ANALYTICAL RESULTS

Table E-1
Summary of Soil Analytical Results
Target Compound List Volatile Organics

BRAC Environmental Site-Screening Report
Naval Training Center
Orlando, Florida

Identifier	01B00101	01B00201	01B00301	01B00401	01S00501	01B00501
Sampling Date	29-Aug-94	30-Aug-94	30-Aug-94	29-Aug-94	26-Aug-94	07-Sep-94
1,1,1-Trichloroethane	12 U	12 U	12 U	12 U	10 U	10 U
1,1,2,2-Tetrachloroethane	12 U	12 U	12 U	12 U	10 U	10 U
1,1,2-Trichloroethane	12 U	12 U	12 U	12 U	10 U	10 U
1,1-Dichloroethane	12 U	12 U	12 U	12 U	10 U	10 U
1,1-Dichloroethene	12 U	12 U	12 U	12 U	10 U	10 U
1,2-Dichloroethane	12 U	12 U	12 U	12 U	10 U	10 U
1,2-Dichloroethene (total)	12 U	12 U	12 U	12 U	10 U	10 U
1,2-Dichloropropane	12 U	12 U	12 U	12 U	10 U	10 U
2-Butanone	12 U	12 U	12 U	12 U	10 U	10 U
2-Hexanone	12 U	12 U	12 U	12 U	10 U	10 U
4-Methyl-2-pentanone	12 U	12 U	12 U	12 U	10 U	10 U
Acetone	12 U	36 J	25 J	12 U	10 U	10 U
Benzene	12 U	12 U	12 U	12 U	10 U	10 U
Bromodichloromethane	12 U	12 U	12 U	12 U	10 U	10 U
Bromoform	12 U	12 U	12 U	12 U	10 U	10 U
Bromomethane	12 U	12 U	12 U	12 U	10 U	10 U
Carbon disulfide	12 U	12 U	12 U	12 U	10 U	10 U
Carbon tetrachloride	12 U	12 U	12 U	12 U	10 U	10 U
Chlorobenzene	12 U	12 U	12 U	12 U	10 U	10 U
Chloroethane	12 U	12 U	12 U	12 U	10 U	10 U
Chloroform	12 U	12 U	12 U	12 U	10 U	10 U
Chloromethane	12 U	12 U	12 U	12 U	10 U	10 U
cis-1,3-Dichloropropene	12 U	12 U	12 U	12 U	10 U	10 U
Dibromochloromethane	12 U	12 U	12 U	12 U	10 U	10 U
Ethylbenzene	12 U	12 U	12 U	12 U	10 U	10 U
Methylene chloride	12 U	12 U	12 U	12 U	10 U	10 U
Styrene	12 U	12 U	12 U	12 U	10 U	10 U
Tetrachloroethene	12 U	12 U	12 U	12 U	10 U	10 U
Toluene	12 U	12 U	12 U	12 U	10 U	10 U
trans-1,3-Dichloropropene	12 U	12 U	12 U	12 U	10 U	10 U
Trichloroethene	12 U	12 U	12 U	12 U	10 U	10 U
Vinyl chloride	12 U	12 U	12 U	12 U	10 U	10 U
Xylene (total)	12 U	12 U	12 U	12 U	10 U	10 U

Notes: Analytical results expressed in micrograms per kilogram ($\mu\text{g/kg}$) soil dry weight.

U = Compound not detected at the contract-required quantitation limit (CRQL).

J = Reported concentration is an estimated quantity.

R = Data rejected during data validation.

Table E-2
Summary of Soil Analytical Results
Target Compound List Semivolatile Organics
Study Area 1

BRAC Environmental Site-Screening Report
Naval Training Center
Orlando, Florida

Identifier	01B00101	01B00201	01B00301	01B00401	01S00501	01B00501
Sampling Date	29-Aug-94	30-Aug-94	30-Aug-94	29-Aug-94	26-Aug-94	07-Sep-94
1,2,4-Trichlorobenzene	400 U	410 U	420 U	400 U	340 U	340 U
1,2-Dichlorobenzene	400 U	410 U	420 U	400 U	340 U	340 U
1,3-Dichlorobenzene	400 U	410 U	420 U	400 U	340 U	340 U
1,4-Dichlorobenzene	400 U	410 U	420 U	400 U	340 U	340 U
2,2'-oxybis(1-Chloropropane)	400 U	410 U	420 U	400 U	340 U	340 U
2,4,5-Trichlorophenol	990 U	1000 U	1000 U	990 U	840 U	860 U
2,4,6-Trichlorophenol	400 U	410 U	420 U	400 U	340 U	340 U
2,4-Dichlorophenol	400 U	410 U	420 U	400 U	340 U	340 U
2,4-Dimethylphenol	400 U	410 U	420 U	400 U	340 U	340 U
2,4-Dinitrophenol	990 U	1000 U	1000 U	990 U	840 U	860 U
2,4-Dinitrotoluene	400 U	410 U	420 U	400 U	340 U	340 U
2,6-Dinitrotoluene	400 U	410 U	420 U	400 U	340 U	340 U
2-Chloronaphthalene	400 U	410 U	420 U	400 U	340 U	340 U
2-Chlorophenol	400 U	410 U	420 U	400 U	340 U	340 U
2-Methylnaphthalene	400 U	410 U	420 U	400 U	340 U	340 U
2-Methylphenol	400 U	410 U	420 U	400 U	340 U	340 U
2-Nitroaniline	990 U	1000 U	1000 U	990 U	840 U	860 U
2-Nitrophenol	400 U	410 U	420 U	400 U	340 U	340 U
3,3'-Dichlorobenzidine	400 U	410 U	420 U	400 U	340 U	340 U
3-Nitroaniline	990 U	1000 U	1000 U	990 U	840 U	860 U
4,6-Dinitro-2-methylphenol	990 U	1000 U	1000 U	990 U	840 U	860 U
4-Bromophenyl-phenylether	400 U	410 U	420 U	400 U	340 U	340 U
4-Chloro-3-methylphenol	400 U	410 U	420 U	400 U	340 U	340 U
4-Chloroaniline	400 U	410 U	420 U	400 U	340 U	340 U
4-Chlorophenyl-phenylether	400 U	410 U	420 U	400 U	340 U	340 U
4-Methylphenol	400 U	410 U	420 U	400 U	340 U	340 U
4-Nitroaniline	990 U	1000 U	1000 U	990 U	840 U	860 U
4-Nitrophenol	990 U	1000 U	1000 U	990 U	840 U	860 U
Acenaphthene	400 U	410 U	420 U	400 U	340 U	340 U
Acenaphthylene	400 U	410 U	420 U	400 U	340 U	340 U
Anthracene	400 U	410 U	420 U	400 U	340 U	340 U
Benzo(a)anthracene	400 U	410 U	420 U	400 U	340 U	340 U
Benzo(a)pyrene	400 U	410 U	420 U	400 U	340 U	340 U
Benzo(b)fluoranthene	400 U	410 U	420 U	400 U	340 U	340 U
Benzo(g,h,i)perylene	400 U	410 U	420 U	400 U	340 U	340 U
Benzo(k)fluoranthene	400 U	410 U	420 U	400 U	340 U	340 U

See notes at end of table.

Table E-2 (Continued)
Summary of Soil Analytical Results
Target Compound List Semivolatile Organics
Study Area 1

BRAC Environmental Site-Screening Report
Naval Training Center
Orlando, Florida

Identifier	01B00101	01B00201	01B00301	01B00401	01S00501	01B00501
Sampling Date	29-Aug-94	30-Aug-94	30-Aug-94	29-Aug-94	26-Aug-94	07-Sep-94
bis(2-Chloroethoxy)methane	400 U	410 U	420 U	400 U	340 U	340 U
bis(2-Chloroethyl)ether	400 U	410 U	420 U	400 U	340 U	340 U
bis(2-Ethylhexyl)phthalate	400 U	410 U	420 U	400 U	160 J	340 U
Butylbenzylphthalate	400 U	410 U	420 U	400 U	340 U	340 U
Carbazole	400 U	410 U	420 U	400 U	340 U	340 U
Chrysene	400 U	410 U	420 U	400 U	340 U	340 U
Di-n-butylphthalate	290 J	520	410 J	320 J	950	560
Di-n-octylphthalate	400 U	410 U	420 U	400 U	340 U	340 U
Dibenz(a,h)anthracene	400 U	410 U	420 U	400 U	340 U	340 U
Dibenzofuran	400 U	410 U	420 U	400 U	340 U	340 U
Diethylphthalate	400 U	410 U	420 U	400 U	340 U	340 U
Dimethylphthalate	400 U	410 U	420 U	400 U	340 U	340 U
Fluoranthene	400 U	410 U	420 U	400 U	340 U	340 U
Fluorene	400 U	410 U	420 U	400 U	340 U	340 U
Hexachlorobenzene	400 U	410 U	420 U	400 U	340 U	340 U
Hexachlorobutadiene	400 U	410 U	420 U	400 U	340 U	340 U
Hexachlorocyclopentadiene	400 U	410 U	420 U	400 U	340 U	340 U
Hexachloroethane	400 U	410 U	420 U	400 U	340 U	340 U
Indeno(1,2,3-cd)pyrene	400 U	410 U	420 U	400 U	340 U	340 U
Isophorone	400 U	410 U	420 U	400 U	340 U	340 U
N-Nitroso-di-n-propylamine	400 U	410 U	420 U	400 U	340 U	340 U
N-Nitrosodiphenylamine ¹	400 U	410 U	420 U	400 U	340 U	340 U
Naphthalene	400 U	410 U	420 U	400 U	340 U	340 U
Nitrobenzene	400 U	410 U	420 U	400 U	340 U	340 U
Pentachlorophenol	990 U	1000 U	1000 U	990 U	840 U	860 U
Phenanthrene	400 U	410 U	420 U	400 U	340 U	340 U
Phenol	400 U	410 U	420 U	400 U	340 U	340 U
Pyrene	400 U	410 U	420 U	400 U	340 U	340 U

¹ Cannot be separated from diphenylamine.

Notes: Analytical results expressed in micrograms per kilogram (µg/kg) soil dry weight.

U = Compound not detected at the contract-required quantitation limit (CRQL).

J = Reported concentration is an estimated quantity.

**Table E-3
Summary of Soil Analytical Results
Target Compound List Pesticides/PCBs
Study Area 1**

BRAC Environmental Site-Screening Report
Naval Training Center
Orlando, Florida

Identifier	01B00101	01B00201	01B00301	01B00401	01S00501	01B00501
Sampling Date	29-Aug-94	30-Aug-94	30-Aug-94	29-Aug-94	26-Aug-94	10-Sep-94
4,4'-DDD	4 U	4 U	4 U	3.9 U	6.7 U	3.4 U
4,4'-DDE	4 U	4 U	4 U	3.9 U	17	4.9
4,4'-DDT	4 U	4 U	4 U	3.9 U	38	14
Aldrin	2 U	2 U	2.1 U	2 U	3.4 U	1.8 U
alpha-BHC	2 U	2 U	2.1 U	2 U	3.4 U	1.8 U
alpha-Chlordane	2 U	2 U	2.1 U	2 U	5.3	5
Aroclor-1016	40 U	40 U	40 U	39 U	67 U	34 U
Aroclor-1221	81 U	81 U	82 U	80 U	140 U	69 U
Aroclor-1232	40 U	40 U	40 U	39 U	67 U	34 U
Aroclor-1242	40 U	40 U	40 U	39 U	67 U	34 U
Aroclor-1248	40 U	40 U	40 U	39 U	67 U	34 U
Aroclor-1254	40 U	40 U	40 U	39 U	67 U	34 U
Aroclor-1260	40 U	40 U	40 U	39 U	67 U	34 U
beta-BHC	2 U	2 U	2.1 U	2 U	3.4 U	1.8 U
delta-BHC	2 U	2 U	2.1 U	2 U	3.4 U	1.8 U
Dieldrin	1.4 J	4 U	4 U	3.9 U	11	2.6 J
Endosulfan I	2 U	2 U	2.1 U	2 U	3.4 U	1.8 U
Endosulfan II	4 U	4 U	4 U	3.9 U	6.7 U	3.4 U
Endosulfan sulfate	4 U	4 U	4 U	3.9 U	6.7 U	3.4 U
Endrin	4 U	4 U	4 U	3.9 U	6.7 U	3.4 U
Endrin aldehyde	4 U	4 U	4 U	3.9 U	6.7 U	3.4 U
Endrin ketone	4 U	4 U	4 U	3.9 U	6.7 U	3.4 U
gamma-BHC (Lindane)	2 U	2 U	2.1 U	2 U	3.4 U	1.8 U
gamma-Chlordane	2 U	2 U	2.1 U	2 U	5.6	4.4
Heptachlor	2 U	2 U	2.1 U	2 U	3.4 U	1.8 U
Heptachlor epoxide	2 U	2 U	2.1 U	2 U	3.4 U	1.8 U
Methoxychlor	20 U	20 U	21 U	20 U	34 U	18 U
Toxaphene	200 U	200 U	210 U	200 U	340 U	180 U

Notes: Analytical results expressed in micrograms per kilogram ($\mu\text{g}/\text{kg}$) soil dry weight.
Results have not been subjected to full independent data validation.

U = Compound not detected at the contract-required quantitation limit (CRQL).

J = Reported concentration is an estimated quantity.

**Table E-4
Summary of Soil Analytical Results
Target Analyte List Metals
Study Area 1**

BRAC Environmental Site-Screening Report
Naval Training Center
Orlando, Florida

Identifier	01B00101	01B00201	01B00301	01B00401	01S00501	01B00501
Sampling Date	29-Aug-94	30-Aug-94	30-Aug-94	29-Aug-94	26-Aug-94	07-Sep-94
Aluminum	252	354	204	148	896	27.6 U
Antimony	4.6 U	4.7 U	4.7 U	4.7 U	3.9 U	4 U
Arsenic	0.68 B	0.45 U	0.45 U	0.45 U	0.74 U	1 U
Barium	0.15 U	0.16 U	0.16 U	0.16 U	213	2.3 B
Beryllium	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.04 UJ	0.04 U
Cadmium	0.7 U	0.71 U	0.71 U	0.7 U	0.59 U	0.6 U
Calcium	79.2 B	118 B	60.4 B	4.2 U	11700	104 B
Chromium	1.5 U	1 U	0.69 U	1.2 U	5.6	0.78 U
Cobalt	0.72 U	0.73 U	0.73 U	0.72 U	0.65 B	0.62 U
Copper	0.41 U	0.42 U	0.42 U	0.41 U	19.1	0.59 B
Iron	136 J	80.1 J	48.3 J	193 J	635 J	20.2 U
Lead	0.2 U	0.26 B	0.2 U	0.2 U	211	10.5 J
Magnesium	6.9 B	6.2 B	4.5 U	4.4 U	284 B	3.8 U
Manganese	0.36 B	0.13 U	0.15 U	0.94 B	16.1	0.47 B
Mercury	0.01 U	0.01 B	0.01 U	0.01 U	0.73	0.03 B
Nickel	4.3 B	2.2 U	2.2 U	2.2 U	3.8 B	1.9 U
Potassium	71.9 U	73.3 U	73 U	72.4 U	83.2 B	62.3 U
Selenium	0.47 U	0.48 U	0.48 U	0.47 U	0.8 U	0.41 U
Silver	0.67 B	0.63 U	0.63 U	0.62 U	0.52 U	0.54 U
Sodium	3.7 U	3.8 U	3.8 U	3.8 U	119 B	3.2 U
Thallium	0.31 U	0.32 U	0.31 U	0.31 U	0.26 U	0.31 U
Vanadium	0.63 U	0.65 U	0.64 U	0.64 U	1.2 B	0.55 U
Zinc	0.32 U	0.33 U	0.32 U	0.32 U	79.9	5.6 U

Notes: Analytical results expressed in milligrams per kilogram (mg/kg) soil dry weight.

U = Analyte not detected at the reporting limit

B = Reported concentration is between the instrument detection limit (IDL) and the contract-required detection limit (CRDL).

J = Reported concentration is an estimated quantity.

Table E-5
Summary of Groundwater Analytical Results
Low Detection Limit Volatile Organics
Study Area 1

BRAC Environmental Site-Screening Report
Naval Training Center
Orlando, Florida

Identifier	01G00101	01G00201	01G00301	01G00401	01G00501
Sampling Date	9/20/94	9/20/94	9/20/94	9/20/94	6/8/95
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	1 U	1 U	1 U	1 U	1 U
1,2-Dibromoethane	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U
2-Butanone	R	R	R	R	R
2-Hexanone	R	R	R	R	5 U
4-Methyl-2-pentanone	5 U	5 U	5 U	5 U	5 U
Acetone	R	R	R	R	R
Benzene	1 U	1 U	1 U	1 U	1 U
Bromochloromethane	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	1 U	1 U	1 U	1 U	1 U
Bromoform	1 U	1 U	1 U	1 U	1 U
Bromomethane	1 U	1 U	1 U	1 U	1 U
Carbon disulfide	1 U	1 U	1 U	1 U	1 U
Carbon tetrachloride	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	1 U	1 U	1 U	1 U	1 U
Chloroethane	1 U	1 U	1 U	1 U	1 U
Chloroform	1 U	1 U	1 U	1 U	1 U
Chloromethane	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U
Dibromochloromethane	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	1 U	1 U	1 U	1 U	1 U
Methylene chloride	1 U	1 U	1 U	1 U	2 U
Styrene	1 U	1 U	1 U	1 U	1 U

See notes at end of table.

Table E-5 (Continued)
Summary of Groundwater Analytical Results
Low Detection Limit Volatile Organics
Study Area 1

BRAC Environmental Site-Screening Report
Naval Training Center
Orlando, Florida

Identifier	01G00101	01G00201	01G00301	01G00401	01G00501
Sampling Date	9/20/94	9/20/94	9/20/94	9/20/94	6/8/95
Tetrachloroethene	1 U	1 U	1 U	1 U	1 U
Toluene	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U
Trichloroethene	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	1 U	1 U	1 U	1 U	1 U
Xylene (total)	1 U	1 U	1 U	1 U	1 U

Notes: Analytical results expressed in micrograms per liter ($\mu\text{g}/\text{L}$).

U = Compound not detected at the contract-required quantitation limit (CRQL).
J = Reported concentration is an estimated quantity.
B = Compound also detected in associated quality control blank.
R = Data rejected during data validation.

Table E-6
Summary of Groundwater Analytical Results
Target Compound List Semivolatile Organics
Study Area 1

BRAC Environmental Site-Screening Report
Naval Training Center
Orlando, Florida

Identifier	01G00101	01G00201	01G00301	01G00401	01G00501
Sampling Date	20-Sep-94	20-Sep-94	20-Sep-94	20-Sep-94	8-Jun-95
1,2,4-Trichlorobenzene	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U	10 U	1 U
1,3-Dichlorobenzene	10 U	10 U	10 U	10 U	1 U
1,4-Dichlorobenzene	10 U	10 U	10 U	10 U	1 U
2,2'-oxybis(1-Chloropropane)	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	25 U	25 U	25 U	25 U	25 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	25 U	25 U	25 U	25 U	25 U
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U
2-Chloronaphthalene	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	10 U	10 U	10 U	10 U	10 U
2-Methylphenol	10 U	10 U	10 U	10 U	10 U
2-Nitroaniline	25 U	25 U	25 U	25 U	25 U
2-Nitrophenol	10 U	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	10 U	10 U	10 U	10 U	10 U
3-Nitroaniline	25 U	25 U	25 U	25 U	25 U
4,6-Dinitro-2-methylphenol	25 U	25 U	25 U	25 U	25 U
4-Bromophenyl-phenylether	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	10 U	10 U	10 U	10 U	10 U
4-Chloroaniline	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl-phenylether	10 U	10 U	10 U	10 U	10 U
4-Methylphenol	10 U	10 U	10 U	10 U	10 U
4-Nitroaniline	25 U	25 U	25 U	25 U	25 U
4-Nitrophenol	25 U	25 U	25 U	25 U	25 U
Acenaphthene	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U	10 U	10 U
Benzo(a)anthracene	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	0.1 U	0.1 U	0.1 U	0.1 U	0.2 U
Benzo(b)fluoranthene	10 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	10 U	10 U	10 U	10 U	10 U
See notes at end of table.					

Table E-6 (Continued)
Summary of Groundwater Analytical Results
Target Compound List Semivolatile Organics
Study Area 1

BRAC Environmental Site-Screening Report
 Naval Training Center
 Orlando, Florida

Identifier	01G00101	01G00201	01G00301	01G00401	01G00501
Sampling Date	20-Sep-94	20-Sep-94	20-Sep-94	20-Sep-94	8-Jun-95
bis(2-Chloroethoxy)methane	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethyl)ether	10 U	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	1 U	1 U	1 U	1	2 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate	10 U	10 U	10 U	10 U	10 U
Di-n-octylphthalate	10 U	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	10 U	10 U	10 U	10 U	10 U
Diethylphthalate	10 U	10 U	10 U	10 U	10 U
Dimethylphthalate	10 U	10 U	10 U	10 U	10 U
Fluoranthene	10 U	10 U	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	1 U	1 U	1 U	1 U	1 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U
N-Nitroso-di-n-propylamine	10 U	10 U	10 U	10 U	10 U
N-Nitrosodiphenylamine ¹	10 U	10 U	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	1 U	1 U	1 U	1 U	1 U
Phenanthrene	10 U	10 U	10 U	10 U	10 U
Phenol	10 U	10 U	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U	10 U	10 U

¹ Cannot be separated from diphenylamine.

Notes: Analytical results expressed in micrograms per liter ($\mu\text{g}/\text{L}$).

U = Compound not detected at the contract-required quantitation limit (CRQL).

Low detection limit analytical results indicated for Benzo(a)pyrene were obtained using High Pressure Liquid Chromatography, Method 8310(MOD).

Low detection limit analytical results indicated for bis(2-Ethylhexyl)phthalate, hexachlorobenzene, and pentachlorophenol were obtained using Selective Ion Monitoring chromatography.

Table E-7
Summary of Groundwater Analytical Results
Target Compound List Pesticides/PCBs
Study Area 1

BRAC Environmental Site-Screening Report
Naval Training Center
Orlando, Florida

Identifier	01G00101	01G00201	01G00301	01G00401	01G00501
Sampling Date	20-Sep-94	20-Sep-94	20-Sep-94	20-Sep-94	8-Jun-95
4,4'-DDD	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 UJ
4,4'-DDE	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 UJ
4,4'-DDT	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 UJ
Aldrin	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 UJ
alpha-BHC	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 UJ
alpha-Chlordane	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 UJ
Aroclor-1016	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ
Aroclor-1221	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ
Aroclor-1232	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ
Aroclor-1242	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ
Aroclor-1248	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ
Aroclor-1254	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ
Aroclor-1260	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ
beta-BHC	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 UJ
delta-BHC	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 UJ
Dieldrin	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 UJ
Endosulfan I	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 UJ
Endosulfan II	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 UJ
Endosulfan sulfate	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 UJ
Endrin	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 UJ
Endrin aldehyde	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 UJ
Endrin ketone	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 UJ
gamma-BHC (Lindane)	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 UJ
gamma-Chlordane	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 UJ
Heptachlor	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 UJ
Heptachlor epoxide	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 UJ
Methoxychlor	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ
Toxaphene	5 U	5 U	5 U	5 UJ	5 UJ

Notes: Analytical results expressed in micrograms per liter ($\mu\text{g}/\text{L}$).

U = Compound not detected at the contract-required quantitation limit (CRQL).

J = Reported concentration is an estimated quantity.

Table E-8
Summary of Groundwater Analytical Results
Target Analyte List Metals
Study Area 1

BRAC Environmental Site-Screening Report
Naval Training Center
Orlando, Florida

Identifier	01G00101	01G00201	01G00202	01G00301	01G00401	01G00501
Sampling Date	20-Sep-94	20-Sep-94	7-Jun-95	20-Sep-94	20-Sep-94	8-Jun-95
Aluminum	370	3,490	221	425	429	1,620
Antimony	2.7 B	4 B	2.5 U	1.5 B	1.2 UJ	2.5 U
Arsenic	1.9 U	2.5 B	1.9 UJ	1.9 U	1.9 UJ	1.9 UJ
Barium	0.74 B	22 B	6.1 J	2.5 B	3.5 B	7.8 J
Beryllium	0.21 UJ	0.21 UJ	0.1 UJ	0.21 UJ	0.21 UJ	0.1 UJ
Cadmium	2.9 U	2.9 U	3.1 U	2.9 U	2.9 U	3.1 U
Calcium	37,900	29,700	39,200	36,900	19,800	12,800
Chromium	1.8 U	5.3 B	3.1 U	1.8 U	1.8 U	3.1 U
Cobalt	3.3 B	3.2 B	2.9 UJ	3 U	3 U	2.9 UJ
Copper	1.7 U	1.7 U	1.4 U	1.7 U	1.7 U	1.4 U
Iron	39.7 B	595	136	24.6 U	38.7 B	73.7 B
Lead	12.9	17.1	1.5 U	8.3	7.6	3 J
Magnesium	3,480 B	3,920 B	3,720 B	3,810 B	1,290 B	1,280 B
Manganese	0.52 U	10.4 B	2.6 B	0.73 B	1.7 B	1.7 B
Mercury	0.06 U	0.07 B	0.12 U	0.06 U	0.06 U	0.12 B
Nickel	9.2 U	9.2 U	14.2 U	9.2 U	9.2 U	14.2 U
Potassium	2,790 B	7,260	7,080	5,490	3,510 B	1,880 J
Selenium	2 UJ	2 UJ	2.3 U	2 UJ	2 UJ	2.3 U
Silver	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U
Sodium	2,700 B	8,710	9,310	5,350	3,920 B	3,050 B
Thallium	1.3 U	1.3 U	1.8 U	1.3 U	1.3 U	1.8 U
Vanadium	2.7 U	6.9 U	2.5 U	2.7 U	2.7 U	7.6 B
Zinc	4 U	5.9 U	4.2 B	1.7 U	6.2 U	21.1

Notes: Analytical results expressed in micrograms per liter ($\mu\text{g}/\text{L}$).

U = Analyte not detected at the reporting limit

B = Reported concentration is between the instrument detection limit (IDL) and the contract-required detection limit (CRDL).

J = Reported concentration is an estimated quantity.